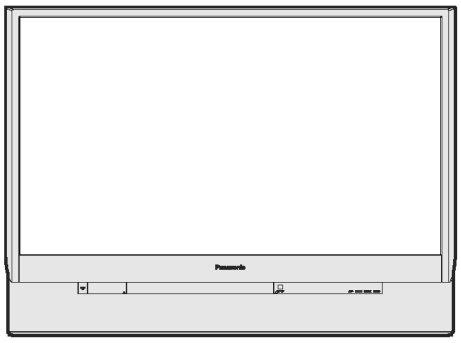
ORDER NO. MKE0505850C1
B2

Service Manual

Multi Media Display



PbF
Solder Lead free

PT-44LCX65
PT-52LCX65
PT-61LCX65

ITEM	SPECIFICATION	1	2	3
LCD panels	0.7" Poly silicon TFT LCD panel x 3	○	○	○
Drive method	Active Matrix 16:9 Aspect Ratio panels, TFT (Thin Film Transistor)	○	○	○
No. of pixels	921 600 (1 280 x 720) stripe pixels x 3 panels (16:9)	○	○	○
HID Lamp	100 W HID (High Intensity Discharged) Lamp	○	○	○
Display	44 inch, 16 : 9 aspect ratio 52 inch, 16 : 9 aspect ratio 61 inch, 16 : 9 aspect ratio	○ — —	— ○ —	— — ○
Video input signal	1.0 Vp-p, sync negative, 75 Ω terminated	○	○	○
S-Video input signal	Y (luminance signal): 1.0 Vp-p, sync negative, 75 Ω terminated C (chrominance signal): burst 0.286 Vp-p, 75 Ω terminated	○	○	○
RGB input signal	Video signal: RGB Analog (0.7 Vp-p, 1.0 Vp-p with sync on green, 75 Ω) Sync signal: H/V separate, H/V composite H-Frequency: 31.47 kHz-68.68 kHz (TTL Level) V-Frequency: 56.25 Hz-85.08 Hz (TTL Level)	○	○	○
Component Video input signal	Y: 1.0 Vp-p, with sync, 75 Ω. P_B, P_R: ±0.35 Vp-p, 75 Ω. YP_BP_R Signal: 480 i H-Frequency 15.73 kHz V-Frequency 29.97 Hz 480 p H-Frequency 31.47 kHz V-Frequency 59.94 Hz 720 p H-Frequency 45.00 kHz V-Frequency 60.00 Hz 1080 i H-Frequency 33.75 kHz V-Frequency 30.00 Hz	○	○	○
Audio input signal	0.5 Vrms	○	○	○
Audio output signal	0.5 Vrms	○	○	○
Speaker	2 Speakers 30 W [15 W + 15 W] (10 % THD)	○	○	○
Tuner	ATSC digital tuner with digital cable module	○	○	○

ITEM	SPECIFICATION	1	2	3
Channel Capability (ATSC/NTSC)	VHF/UHF 2-69 Cable 1-135	○	○	○
Input Terminals	S-Video Input: Mini DIN 4-pin Video Input: RCA Pin Jack RGB Input: D-Sub mini 15-pin Component Video Input: 3 RCA Pin Jacks HDMI Input: HDMI type A Connector Audio Input: 2 RCA Pin Jacks (L-R)	○	○	○
Output Terminals	Video Output: RCA Pin Jack Audio Output: 2 RCA Pin Jack (L-R) Digital Audio Output: Optical Connector	○	○	○
SD Card Slot	SD Card (8 MB/ 16MB/ 32MB/ 64MB/ 128MB/ 256MB/ 512MB/ 1GB (Maximum))	○	○	○
Power Source	AC 120 V, 60 Hz	○	○	○
Power Consumption	Power ON: Approx. 180 W (When audio is at maximum) Power OFF: Approx. 0.3 W (When cooling fan is stopped)	○	○	○
Operating Conditions	Temperature: 0 °C~35 °C (32 °F~95 °F) Humidity: 20 %~80 % (non-condensing)	○	○	○
Weight (Mass)	31 kg (68 lbs.) 35 kg (77 lbs.) 42 kg (93 lbs.)	○ — —	— ○ —	— — ○
Dimensions (W x H x D)	1 048 mm x 769 mm x 374 mm (41-1/4 inch x 30-1/4 inch x 14-3/4 inch) 1 225 mm x 893 mm x 431 mm (48-1/4 inch x 35-3/16 inch x 17 inch) 1 424 mm x 1 029 mm x 468 mm (56-1/16 inch x 40-1/2 inch x 18-7/16)	○ — —	— ○ —	— — ○
Solder	**This model uses lead free solder (PbF).**	○	○	○

1. PT-44LCX65
2. PT-52LCX65
3. PT-61LCX65

Weight and dimensions shown are approximate.
Designs and specifications are subject to change without notice.

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⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

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1 SAFETY PRECAUSIONS

1.1. GENERAL GUIDELINES

1. For continued safety, no modification of any circuit should be attempted.
2. Disconnect AC Plug before disassembling this unit.
3. It is advisable to use an isolation transformer in the AC supply before servicing.
4. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
5. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers, shield, and isolation R-C combinations etc. are properly installed.
6. After servicing, be sure to restore the wires, leads, insulation barriers, shields, etc.
7. After servicing, make the leakage current checks to prevent the customer from being exposed to shock hazards.

Caution:

Use a separate Isolation Transformer for this unit when servicing.

1.2. LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. For physically operated power switches, turn power on. Otherwise skip step 2.
3. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the receiver, such as screwheads, connectors, etc. When the exposed metallic part has a return path to the chassis, the reading should be between 1 MΩ and 12 MΩ. When the exposed metal does not have a return path to the chassis, the reading must be infinity.

1.3. LEAKAGE CURRENT HOT CHECK

1. Plug the AC cord directly into the AC outlet.

   Do not use an isolation transformer for this check.
2. Connect "A" to exposed metallic part on the set. And connect "B" to a good earth ground, as shown in Figure 1.
3. Use an AC voltmeter, with 1 kΩ/V or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.25 V RMS.

   A leakage current tester (Simpson Model 228 equivalent) may be used to make the hot checks. Leakage current must not exceed 1/2 mA. In case a measurement is outside of the limits specified, there is a possibility of shock hazard, and the receiver should be repaired and rechecked before it is returned to the customer.

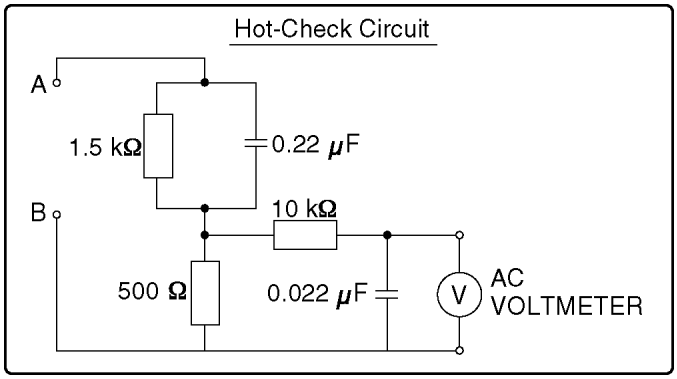


Figure 1

1.4. UV-PRECAUTION

1. Be sure to disconnect the AC Plug when replacing the lamp.
2. Since the lamp reaches a very high temperature during its operation, wait until it has completely cooled off when replacing the Lamp Unit.
3. The lamp emits small amounts of UV-Radiation.

   Avoid direct-eye contact by covering the Lamp and wearing the UV protective glasses.
4. The high pressure lamp involves a risk of explosion.

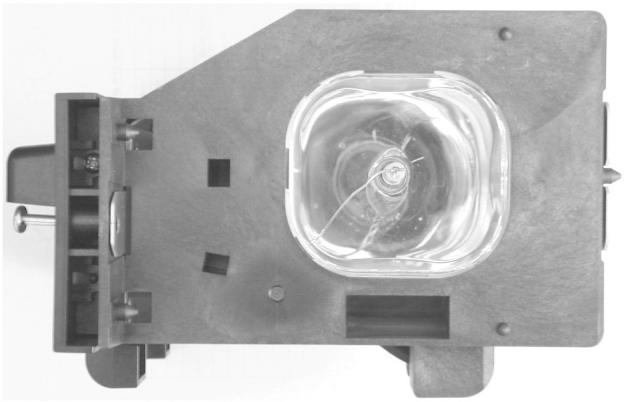


Figure 2

This product has a High Intensity Discharge (HID) lamp that contains a small amount of mercury. Disposal of these materials may be regulated in your community due to environmental considerations. For disposal or recycling information please contact your local authorities, or the Electronics Industries Alliance: <http://www.eiae.org.>

2 PREVENTION OF ELECTROSTATIC DISCHARGE (ESD) TO ELECTROSTATICALLY SENSITIVE (ES) DEVICES

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistorsandsemiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by electro static discharge (ESD).

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap,whichshould be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an antistatic solder removal device. Some solder removal devices not classified as "antistatic (ESD protected)" can generate electrical charge sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparableconductivematerial).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

   CAUTION :

   Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity (ESD)sufficientto damage an ES device).

3 ABOUT LEAD FREE SOLDER (PbF)

Distinction of PbF PCB:

PCBs (manufactured) using lead free solder will have a PbF printing on the PCB.
(Please refer to figures.)

Printed case

CAUTION:

- Pb free solder has a higher melting point than standard solder;
  Typically the melting point is 50 °F - 70 °F (30 °C - 40 °C) higher.
  Please use a soldering iron with temperature control and adjust it to 700 °F±20 °F (370 °C± 10 °C).
  In case of using high temperature soldering iron, please be carefull not to heat too long.
- Pb free solder will tend to splash when heated too high (about 1100 °F/600 °C).
- All products with the printed circuit board with PbF stamp or printing must be serviced with lead free solder.
  When soldering or unsoldering, completely remove all of the solder from the pins or solder area,
  and be sure to heat the soldering points with the lead free solder until it melts sufficiently.

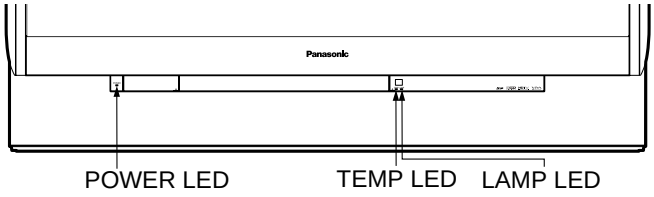
Recommendations

Recommended lead free solder composition is Sn96.5 Ag3.0 Cu0.5.

4 SERVICE NOTES

LED INDICATIONS FOR ERROR CONDITION

Each LED indication facilitates finding the cause of the error.
When an error is detected, the Lamp comes off and the LED on the front will flash.

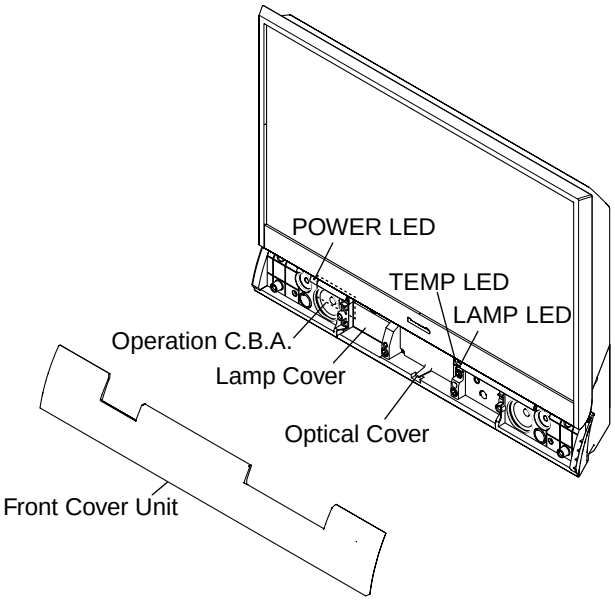


					(Note 2)	(Note 3)
Error No.	**Error Information**	**POWER LED**	**TEMP LED**	**LAMP LED**	**OSD**	**LAMP OFF**
1)	**Fan1, Fan2 or Fan3 stopped**	flashes orange once every 5 seconds	-	-		○
2)	**Lamp Cover open**	flashes orange twice every 5 seconds	-	-		○
3)	**Temperature Sensor shorted or open (Thermistor 1 C.B.A.)**	-	flashes once every 5 seconds	-		○
4)	**Abnormal Temperature (Thermistor 1 C.B.A.)**	-	flashes twice every 5 seconds	-		○
5)	**Ballast Error (abnormal Lamp or Ballast)**	-	-	flashes once every 5 seconds		○
6)	**Ballast Error (abnormal Lamp voltage)**	-	-	flashes twice every 5 seconds		○
7)	**Ballast Error (abnormal temperature)**	-	-	flashes 3 times every 5 seconds		○
8)	**Ballast Error (other causes)**	-	-	flashes 4 times every 5 seconds		○
9)	**Abnormal Voltage (+17V, +9V, +5V line) for LCD Drive C.B.A.**	flashes orange 7 times every 5 seconds	flashes 3 times every 5 seconds	flashes 3 times every 5 seconds		○
10)	**Temperature Sensor shorted or open (Thermistor 2 C.B.A.)**	-	flashes 3 times every 5 seconds	-		○
11)	**Abnormal Temperature (Thermistor 2 C.B.A.)**	-	flashes 4 times every 5 seconds	-		○
12)	**Clogged air filter**	-	flashes 5 times every 5 seconds	-	○	○

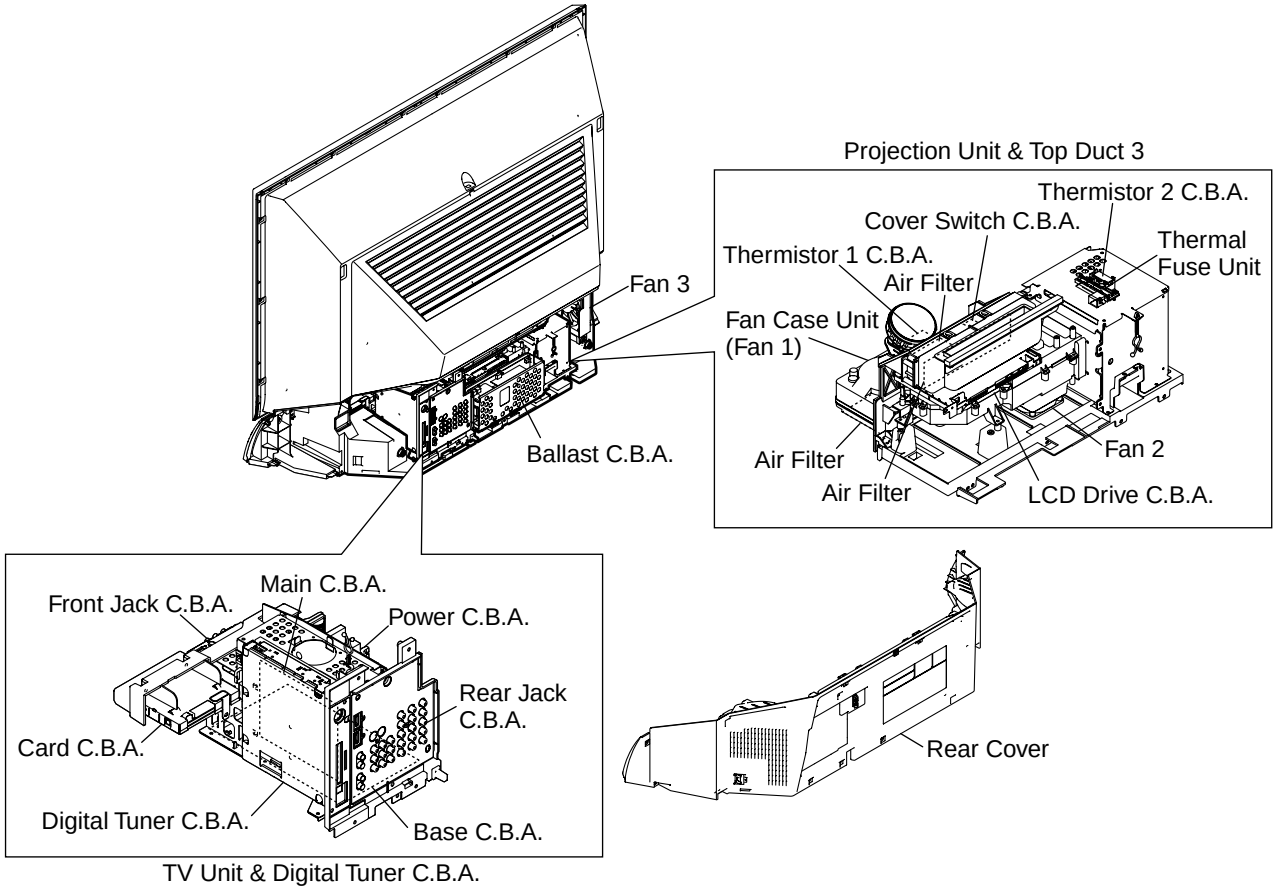
Note:
1. When two or more errors have occurred at the same time, the LED will alternate flash patterns as shown above every 5 seconds.
2. Warning OSD appears when the air filter is clogged.
3. LAMP OFF: The LED will flash immediately after the Lamp comes off.

MAIN PARTS LOCATION

<Front View>



<Rear View>



SERVICE MODE

In this mode, the following information can be confirmed on the screen:

Service Mode (1/3)
- Current Lamp elapsed time
- The number of Lamp ON **(For reference only)**
- BKSV number read-out

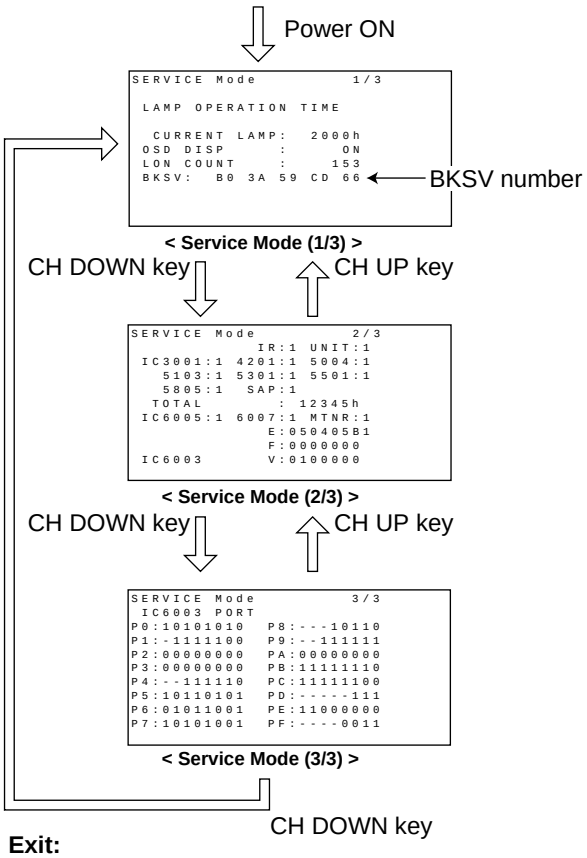
Service Mode (2/3)
- Key detection check
- Communication check for IIC bus on the Main C.B.A.
- Total Lamp elapsed time
- Communication check for IIC bus on the Main C.B.A.
- EEPROM IC6007 version and build version **(For reference only)**
- IC6003 software version and build version **(For reference only)**

Service Mode (3/3)
- IC6003 Port information

Note:
IC6003: Main Microcontroller on the Main C.B.A.

Service Mode Map

Enter :
VOLUME DOWN button + TV/VIDEO key
(on the front) (on the remote)
(for more than 5 seconds in power off condition)



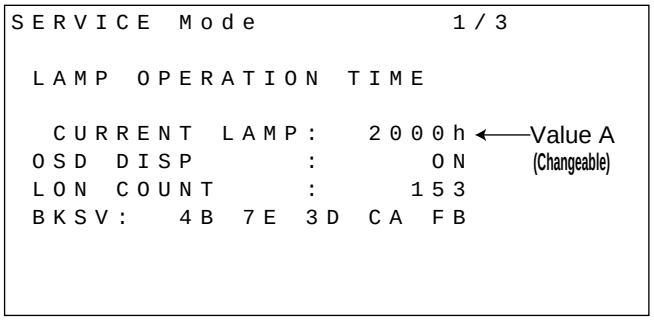
Exit:
Power OFF.
(When turning the power on again after once turning off, wait for approx. 10 seconds. Or, the unit can not be released from Service Mode.)

Fig. 1-1

BEFORE REMOVING THE MAIN C.B.A. OR THE TV UNIT FROM THE UNIT AT THE USE'S LOCATION

Note:
The TV Unit includes the Main C.B.A.

CAUTION:
1. **Be sure to make a note of the CURRENT LAMP value (value A) in Service Mode (1/3):**



<Service Mode (1/3)>

Fig. 2

LAMP OPERATION TIME is stored in EEPROM on the Main C.B.A. Therefore, before removing the Main C.B.A. or the TV Unit at the user's location, make a note of the CURRENT LAMP value (value A) in Service Mode (1/3). Then, after installing the new Main C.B.A. or the TV Unit at the user's location, set the CURRENT LAMP value to the original value (value A) in Service Mode.
Otherwise, OSD and LED Lamp replacement indications will be displayed at the wrong time.

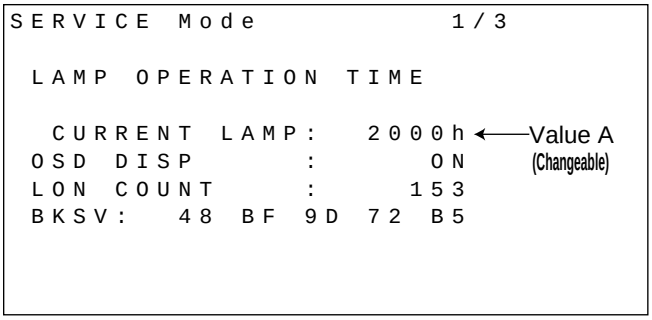
Note:
In case it is impossible to make a note of the CURRENT LAMP value because of a defective Main C.B.A., ask the customer their daily average use and the approximate age of the current Lamp. Then, calculate the CURRENT LAMP value as follows and make a note.

Daily average use (hours)	X	Approx. age (days)	=	**CURRENT LAMP** (hours)

Note:
The TOTAL value can be set to the original value in Service Mode (2/3) by similar method:
Before removing the Main C.B.A. at the user's location, make a note of the TOTAL value in Service Mode (2/3). Then, after installing the new Main C.B.A. at the user's location, set the TOTAL value to the original value in Service Mode.

WHEN REINSTALLING THE MAIN C.B.A. OR THE TV UNIT INTO THE UNIT AT THE USER'S LOCATION

CAUTION:
1. Set CURRENT LAMP value to original value as follows.
   1) Select CURRENT LAMP in Service Mode (1/3).
   2) Press the VOLUME UP/DOWN key on the remote to change to the original value (value A) that was noted before removing the Main C.B.A. or the TV Unit at the user's location.

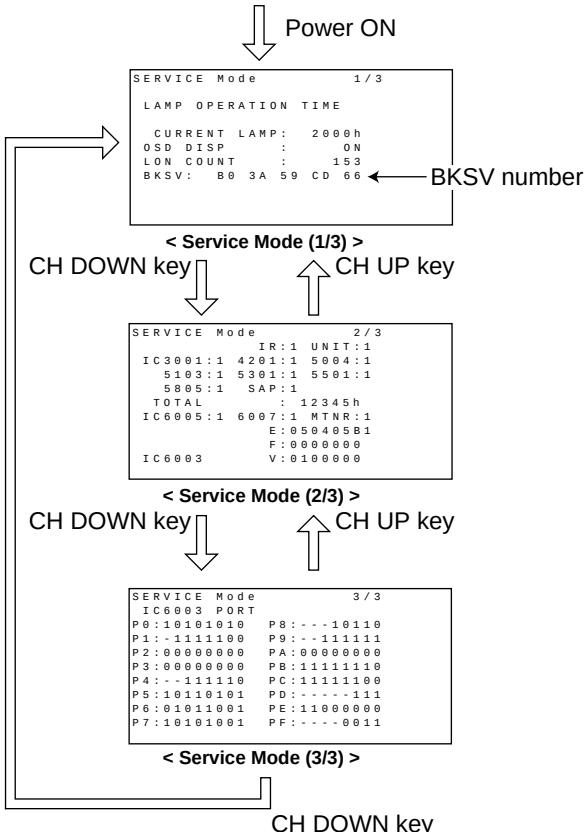


<Service Mode (1/3)>

Fig. 3

Service Mode Map

Enter :
VOLUME DOWN button + TV/VIDEO key
(on the front) (on the remote)
(for more than 5 seconds in power off condition)



Exit:
Power OFF.
(When turning the power on again after once turning off, wait for approx. 10 seconds. Or, the unit can not be released from Service Mode.)

REPLACEMENT OF LAMP

Lamp Time Reset Procedure:

Be sure to reset the Lamp time to "0" after replacing the new Lamp.

1. Plug in the AC Cord, and turn on the power by pressing the POWER button.
2. Press and hold the VOLUME DOWN button on the unit and the SPLIT key on the remote together for over 5 seconds in power on condition.
   When the reset is finished, the display as shown in Fig. 5-1 appears and the LAMP LED goes out.

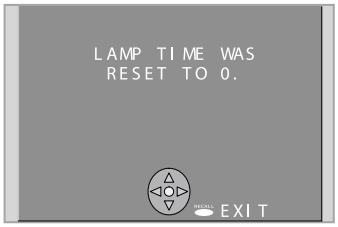


Fig. 5-1

Note:

1. The unit will detect when the Lamp's end of life is approaching and the following message will be displayed. And the LAMP indicator light will be lit when the Lamp's end of life is approaching.

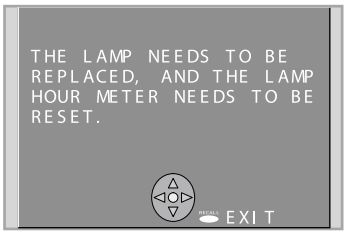


Fig. 5-2

2. Influences of frequent lighting, continuous light use for over 24 hours, the number of times lit, the length of time between lightings, etc. may shorten lamp life. (Because of this, we recommend having a replacement lamp on hand.)

WARNING:

- The lamp could rupture if dropped and lamp fragments could cause injury.
- Because the lamp unit is hot immediately after its use, touching it may cause burns.
  Please allow the lamp to cool before handling or replacing the lamp unit.
- If replacement of the lamp unit becomes necessary during the operation of the Projection Display, follow the procedure to turn off the power and wait until the lamp unit cools completely.

Cautions for Lamp Unit Replacement:

- Do not disassemble the Lamp.
- The lamp may be hot. Be careful when handling. Wear gloves.
- Under no circumstance should you touch the actual bulb. At this high operating temperature the natural oil on your finger can cause the glass to weaken where touched and the bulb can crack or explode.

Lamp Replacement Procedure:

1. Press the POWER button to turn off the power.
2. Wait for about 1 minute until the cooling fan stops.
   Note:
   The lamp cooling fan will continue to operate for about 1 minute after the power is turned off. Do not unplug the AC Cord from the outlet until the fan has stopped. Avoid interrupting the power by using circuit breakers or switchable power strips.
3. After the cooling fan has stopped, unplug the AC Cord from the outlet.
   Note:
   Please wait more than one hour before replacing the lamp.
   [Forced cooling function]
   If you need to replace the lamp more urgently:
   - The Projection display has a forced cooling feature. After the POWER button is turned OFF, and during the first minute of the normal cooling fan operation, press the VOLUME UP button on the unit and CH UP key on the remote at the same time for more than 5 seconds. The cooling fan operates for about 10 minutes. (LAMP LED will flash 5 times every 5 second and POWER LED will flash red for 10 minutes.)
4. Remove the Front Cover Unit from the latches.
5. Turn the Knob to the left.

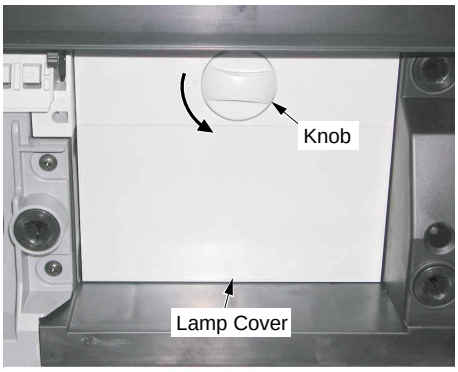


Fig. 5-3

6. Pull the Lamp Cover out.
7. Loosen the Screw on the Lamp. Then, pull the Lamp.
   Note:
   Because the Lamp may still be hot, use caution when handling.

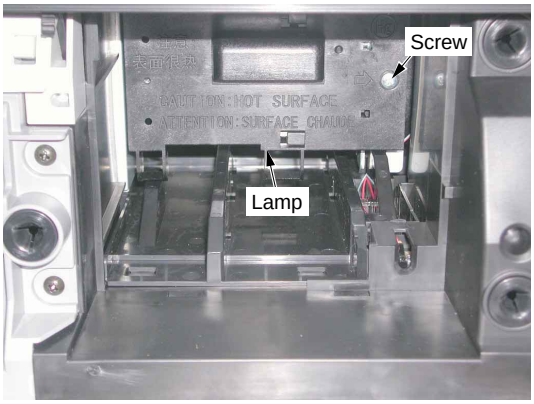


Fig. 5-4

8. Install the new Lamp, and tighten the Screw.
9. Install the Lamp Cover, and turn the Knob to the right.
10. Install the Front Cover Unit.

Note:
After replacing the Lamp, use caution to reset the Lamp time.

CLEANING METHOD

THE SCREEN UNIT AND THE MIRROR

- THE SCREEN UNIT (Lenticular Screen, Fresnel Lens)

It is strongly recommended that the Lenticular Screen surface (outside) and the Fresnel Lens surface (inside) should be wiped gently with a clean, soft, dry cloth to remove the dirt.

Note:

1. If the dirt cannot be removed by wiping with a clean, soft, dry cloth, use a clean, soft, dry cloth moistened with diluted neutral pH liquid cleanser or a lens cleaner (usually containing a small amount of ethyl alcohol) and wipe lightly. Take care not to leave any streaks.
   Do not use cleaning materials containing methyl alcohol, acetone, or dichloromethane.
2. Use an air blower to clean the inner surface of the Lenticular Screen and the outer surface of the Fresnel Lens (the surfaces that one another). These surfaces must not be wiped with a cloth.

- THE MIRROR

Remove any dirt with an air blower or wipe with a clean, soft, dry cloth. If wiped too forcefully, the surface of the Mirror can be damaged. If wiping with a clean, dry cloth does not remove the dirt, the Mirror must be replaced.

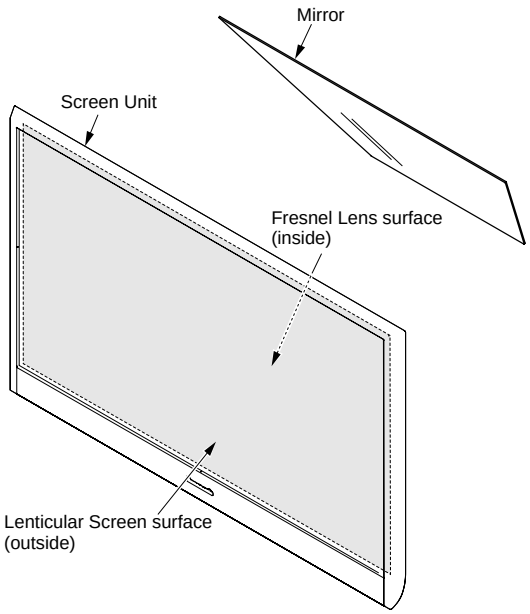


Fig. 6-1

THE LAMP

Gently wipe the surface of the glass of the Lamp with cleaning paper or soft cloth.

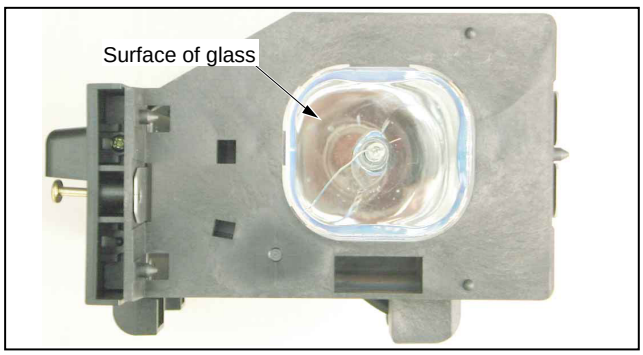


Fig. 6-2

THE FILTER ON THE PROJECTION UNIT

CAUTION:

Operating with torn or damaged Air Filter may cause damage to the Projection unit.

Remove the Projection Unit from rear. Then, clean the filters on the Projection Unit. Gently remove any accumulated dust from filter with a vacuum cleaner.

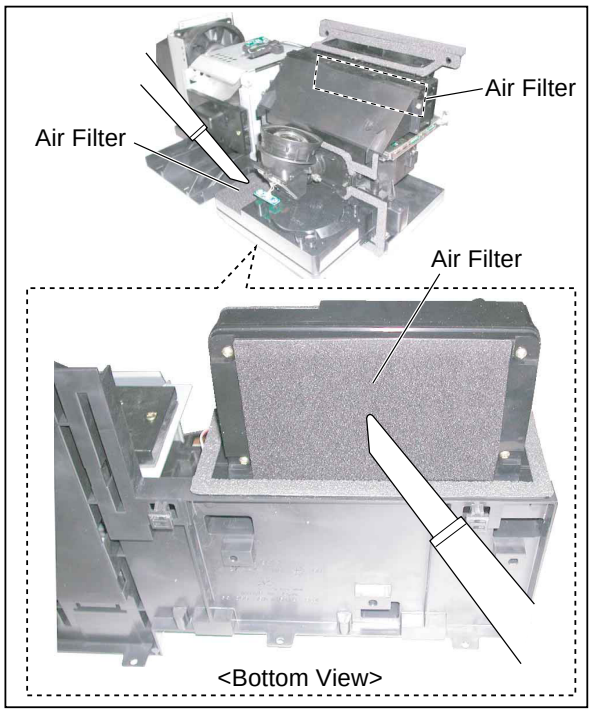


Fig. 6-3

THE PROJECTION LENS

Use lens cleaning paper and cleaner available at your local camera shop, etc. Dampen the cleaning paper with cleaner and gently wipe the surface of the lens from the center outward to remove dust.

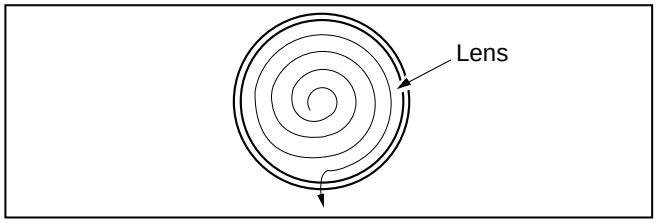


Fig. 6-4

THE POLARIZER UNIT, THE FIELD LENS, THE RELAY LENS, THE CONDENSER LENS, THE DICHROIC MIRROR, THE FULL MIRRORS, THE INTEGRATOR AND THE P/S CONVERTER

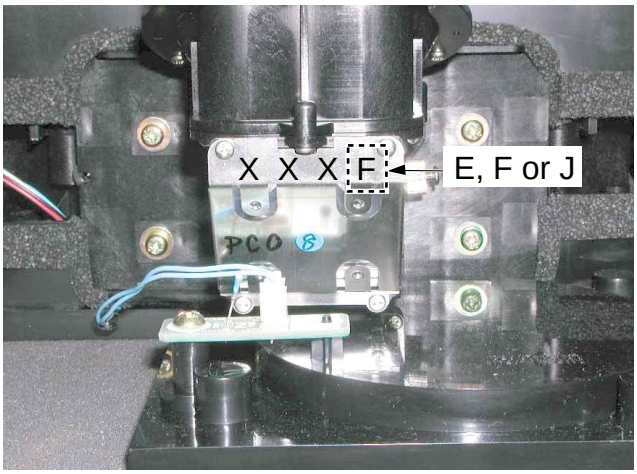
Make sure that no dust gets on the optical components such as the Polarizer Unit, the Field Lens, the Relay Lens, the Condenser Lens, the Dichroic Mirror, the Full Mirrors, the Integrator and the P/S Converter. Clean these optical components with cleaning paper moistened with pure ethyl alcohol or a lens cleaner which contains no water or oil.

THE LCD PANEL OF THE LCD/PRISM UNIT

1) Clean the surface of the LCD Panel of the LCD/Prism Unit with an air blower or wipe with a clean, or soft blush lightly.
2) If any dirt remains, lightly wipe the surface with a cotton swab moistened with pure ethyl alcohol or a lens cleaner which contains no water or oil. Use a new swab after each wiping so that dirt will not be re-deposited on the surface.

TO DISTINGUISH THE PROJECTION LENS UNIT OR THE PROJECTION UNIT

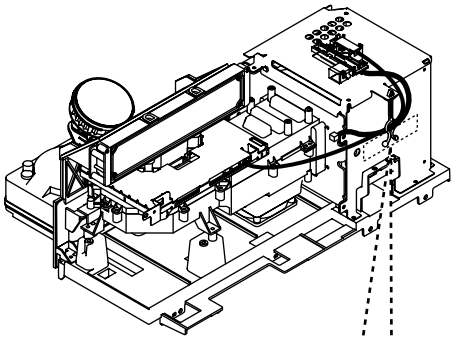
The only difference between the 44 inch model, the 52 inch model and the 61 inch model of the Projection Unit is the Projection Lens. To distinguish, see marking (E, F or J) on the Projection Lens.



<Front View>

E with red: for 44 inch model
F with black: for 52 inch model
J with blue: for 61 inch model

And also, see the stamp on the Lamp Wall of the Projection Unit.



Stamp

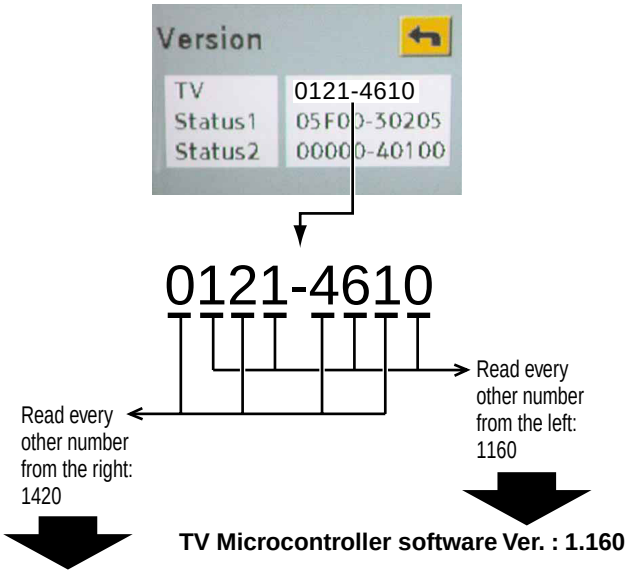
44"LSXA0625 : for 44 inch model

52"LSXA0626 : for 52 inch model

61"LSXA0699 : for 61 inch model

TO READ THE DIGITAL TUNER (PEAKS) SOFTWARE VERSION AND TV MICROCONTROLLER SOFTWARE VERSION

1. Press MENU key with the power on.
2. Press CH UP/DOWN key and select "Setup." Then press OK key.
3. Press CH UP/DOWN key and select "About." Then press OK key.
4. Select "Version" and press OK key. Version menu will appear as shown below. Starting with the second digit from the right or from the left.



RESET USER'S MEMORY FUNCTIONS

Be sure to reset the user's memory:
- After replacing the Digital Tuner C.B.A.
- If the secret code of V-chip is forgotten.
- When moving the unit to a new location.

1. Turn on the power.
2. Press and hold the VOLUME DOWN button on the unit and the OK key on the remote for more than 3 seconds. When reset is finished, power shuts off automatically (the user's memory is reset).

CLOGGED AIR FILTER DETECTION

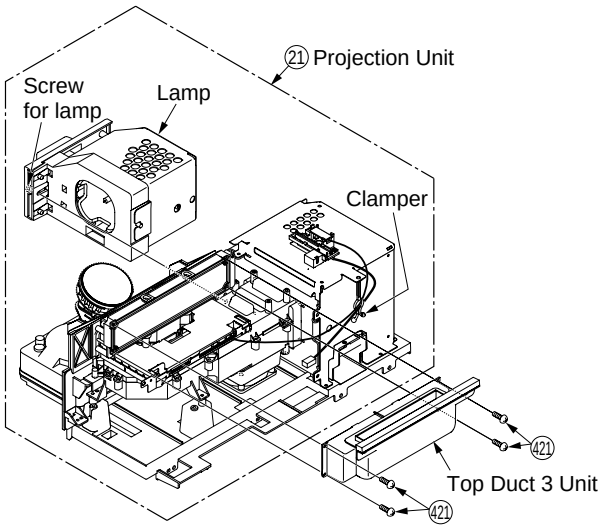
When a dirty or clogged air filter is detected, the OSD display appears for 1 minute. And then the Lamp is turned OFF.
When this OSD display appears, remove the Projection Unit from rear, and clean the air filters gently on the Projection Unit.

AIR FILTER CLEANING IS RECOMMANDED AT THIS TIME. FIRST TURN THE UNIT OFF.
PLEASE CALL FOR SERVICE.

UNIT WILL BE TURNED OFF AFTER 1 MINUTE.

BEFORE REMOVING THE PROJECTION UNIT FROM THE UNIT AT THE USER'S LOCATION

When removing the Projection Unit, remove the Lamp and the Top Duct 3 Unit from the Projection Unit and keep them. Then, reinstall this Lamp and the Top Duct 3 Unit into the new Projection Unit.



DO NOT UNPLUG AC CORD DURING COOLING OPERATION

The lamp cooling fan will continue to operate for approximately 1 minute after the power is turned off.
At the same time, the POWER LED will flash red.
Do not disconnect the AC Cord from the power outlet and do not open any circuit breakers while the cooling fan is still operating.

HOT CIRCUIT

Primary circuit exists on the Ballast C.B.A. and the Power C.B.A.
This circuit is identified as "**HOT**" on the C.B.A. and in the Service Manual. Use extreme care to prevent accidental shock when servicing.

MODEL NO. IDENTIFICATION MARK

Use Marks shown in the chart below to distinguish the different models included in this Service Manual.

MODEL	MARK
PT-44LCX65	A
PT-52LCX65	B
PT-61LCX65	C
NOT USED	PT

Note:
Refer to Item 3 of Schematic Diagram Notes of Schematic Diagram and Circuit Board Layout Notes, for mark "PT."

WIRE AND LEAD POSITION DIAGRAM OF THE UNIT

After servicing, make sure that all wires, leads, and clampers are placed in their original position. It is important for the best operation of the unit.
Note: Use extreme care especially for the following.

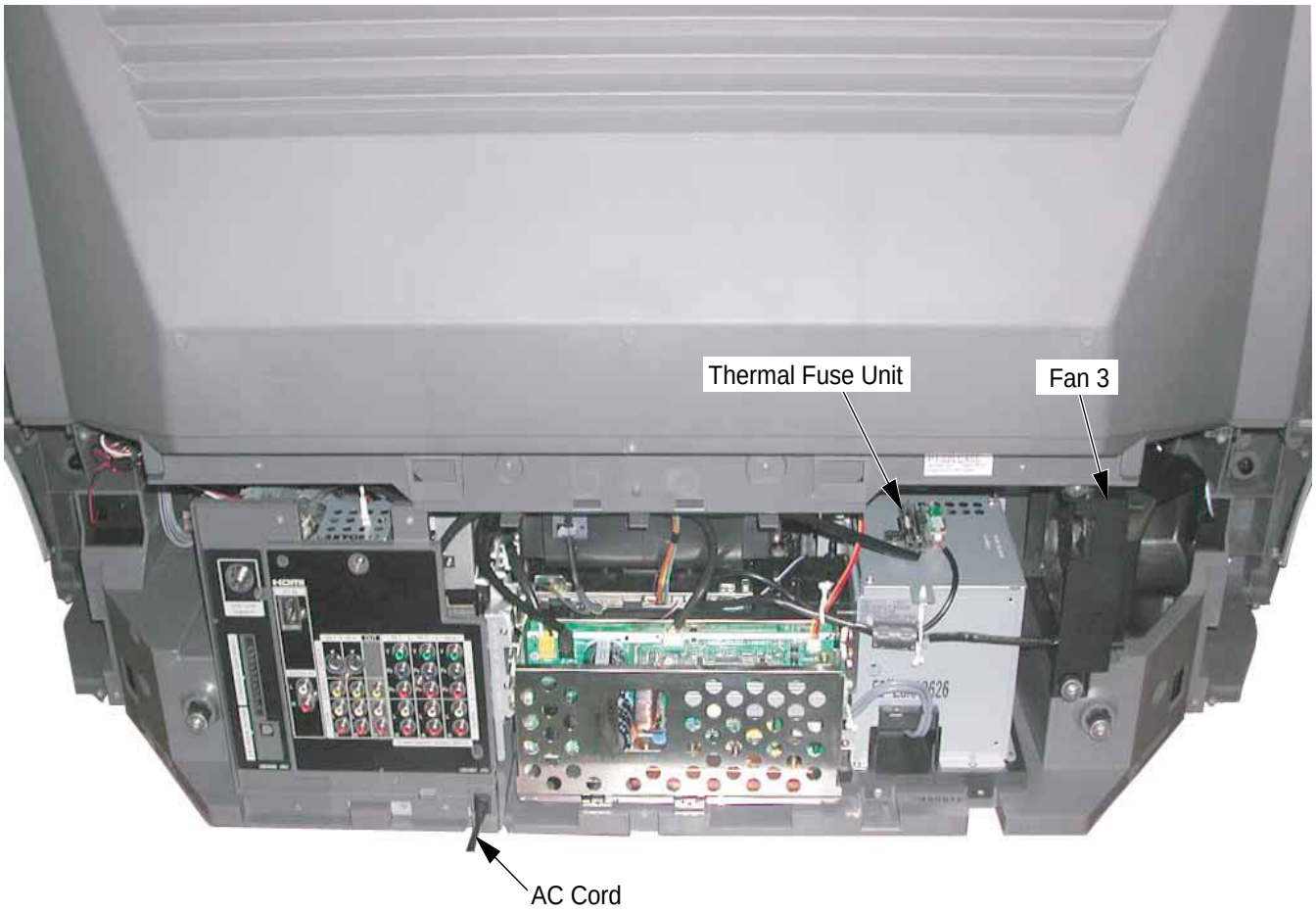


Fig. 9-1

After servicing, make sure that all wires, leads, and clampers are placed in their original position. It is important for the best operation of the unit.
Note: Use extreme care especially for the following.

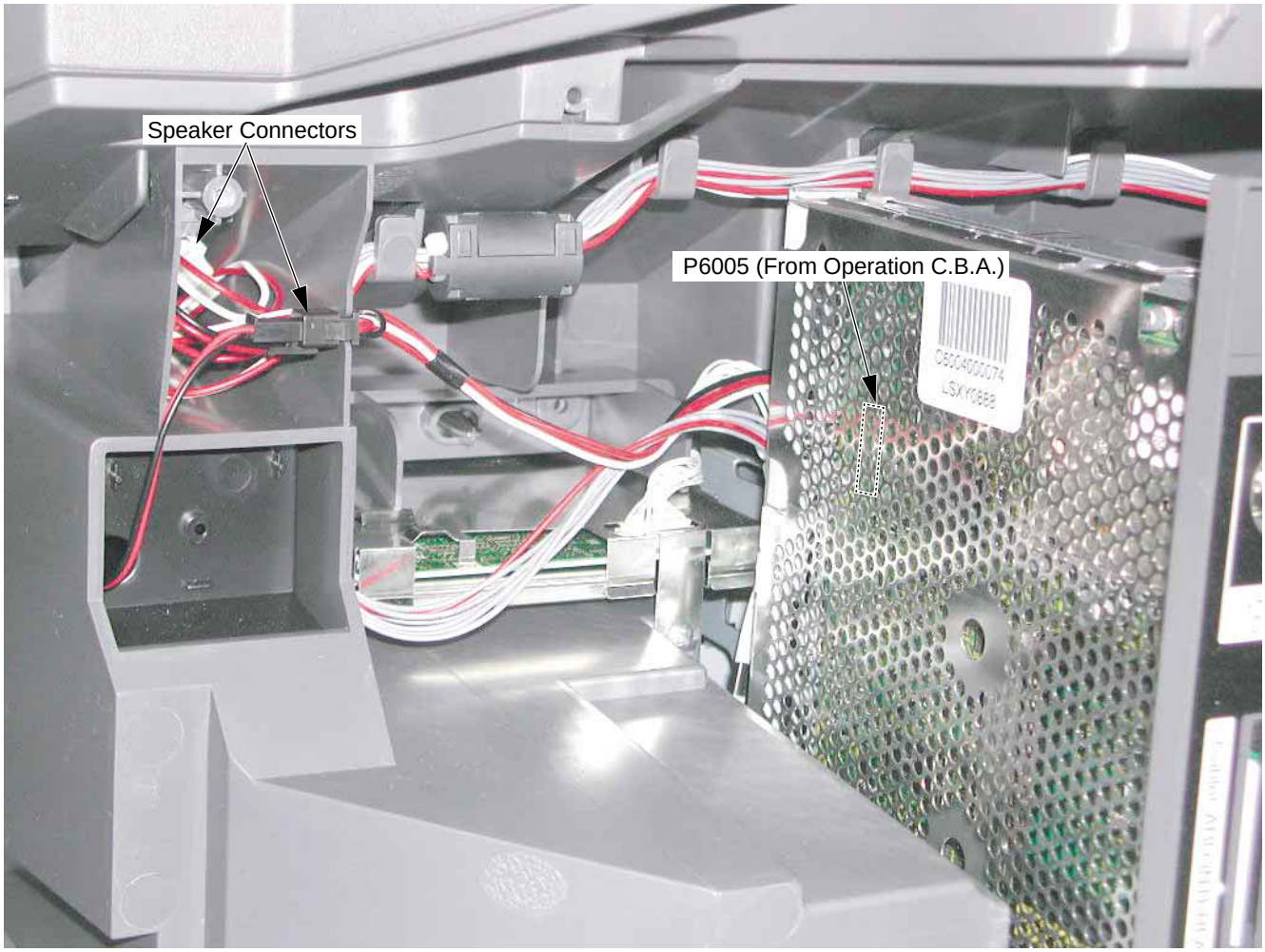


Fig. 9-2

After servicing, make sure that all wires, leads, and clampers are placed in their original position. It is important for the best operation of the unit.
Note: Use extreme care especially for the following.

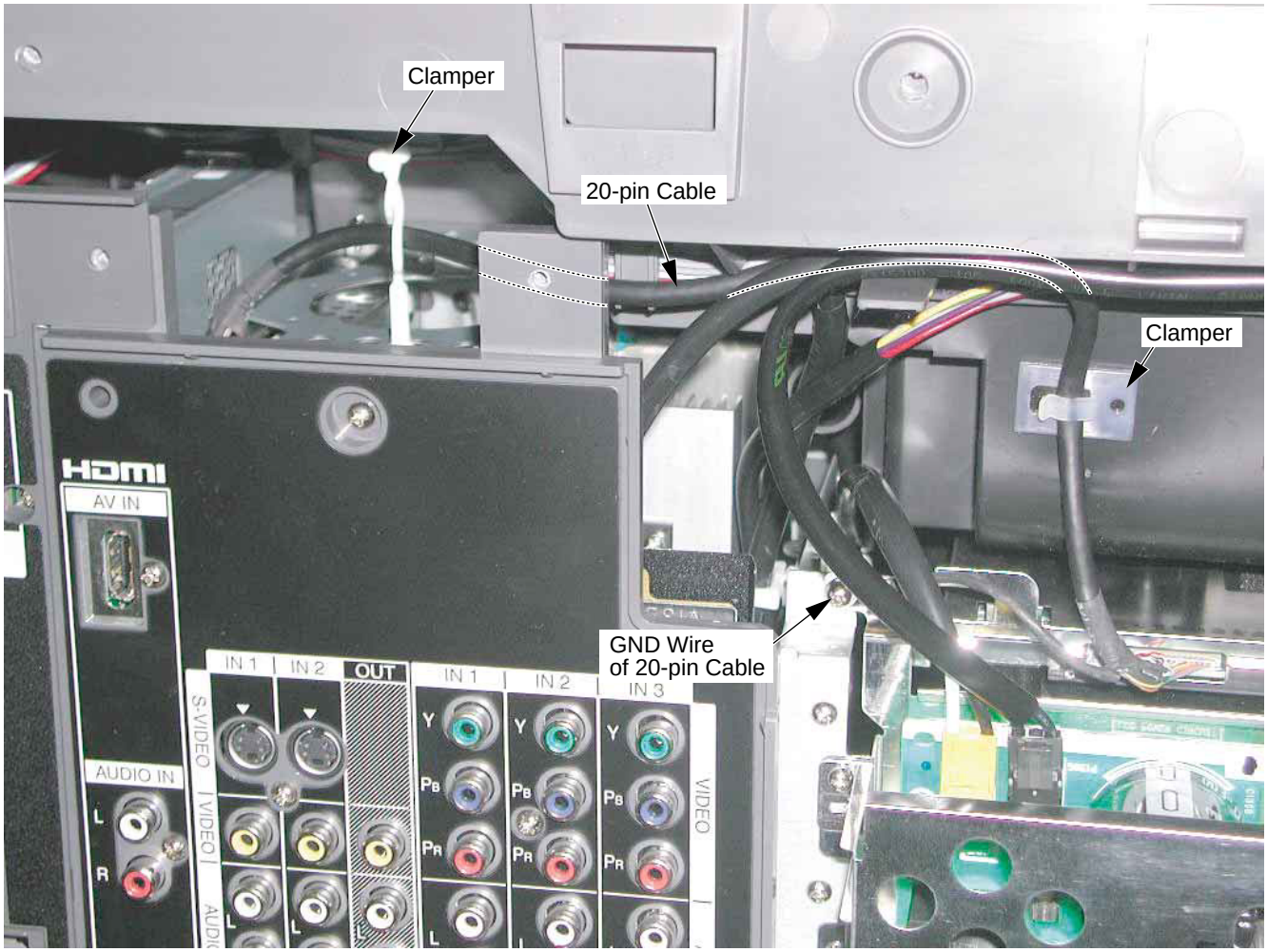


Fig. 9-3

After servicing, make sure that all wires, leads, and clampers are placed in their original position. It is important for the best operation of the unit.
Note: Use extreme care especially for the following.

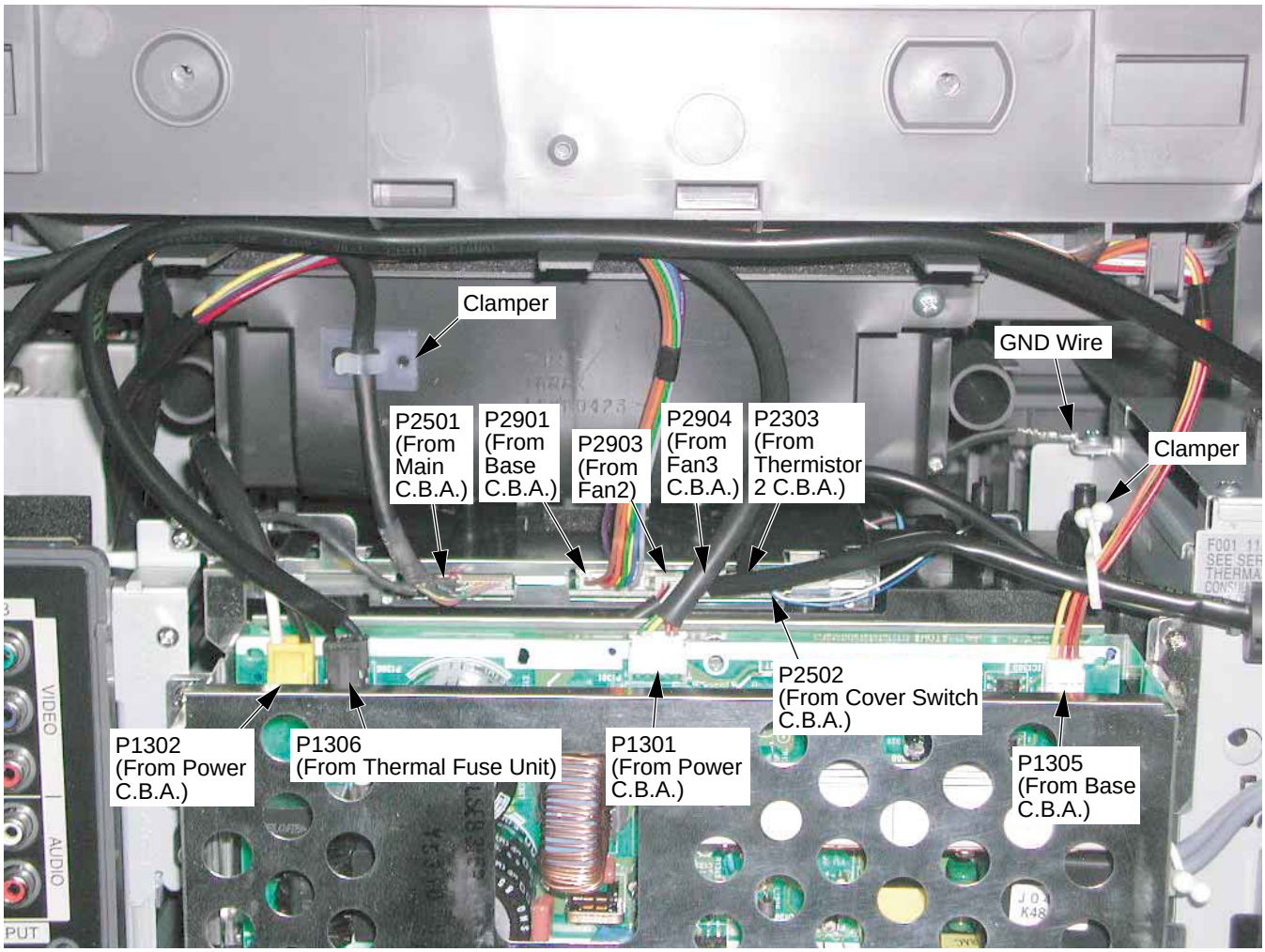


Fig. 9-4

After servicing, make sure that all wires, leads, and clampers are placed in their original position. It is important for the best operation of the unit.
Note: Use extreme care especially for the following.

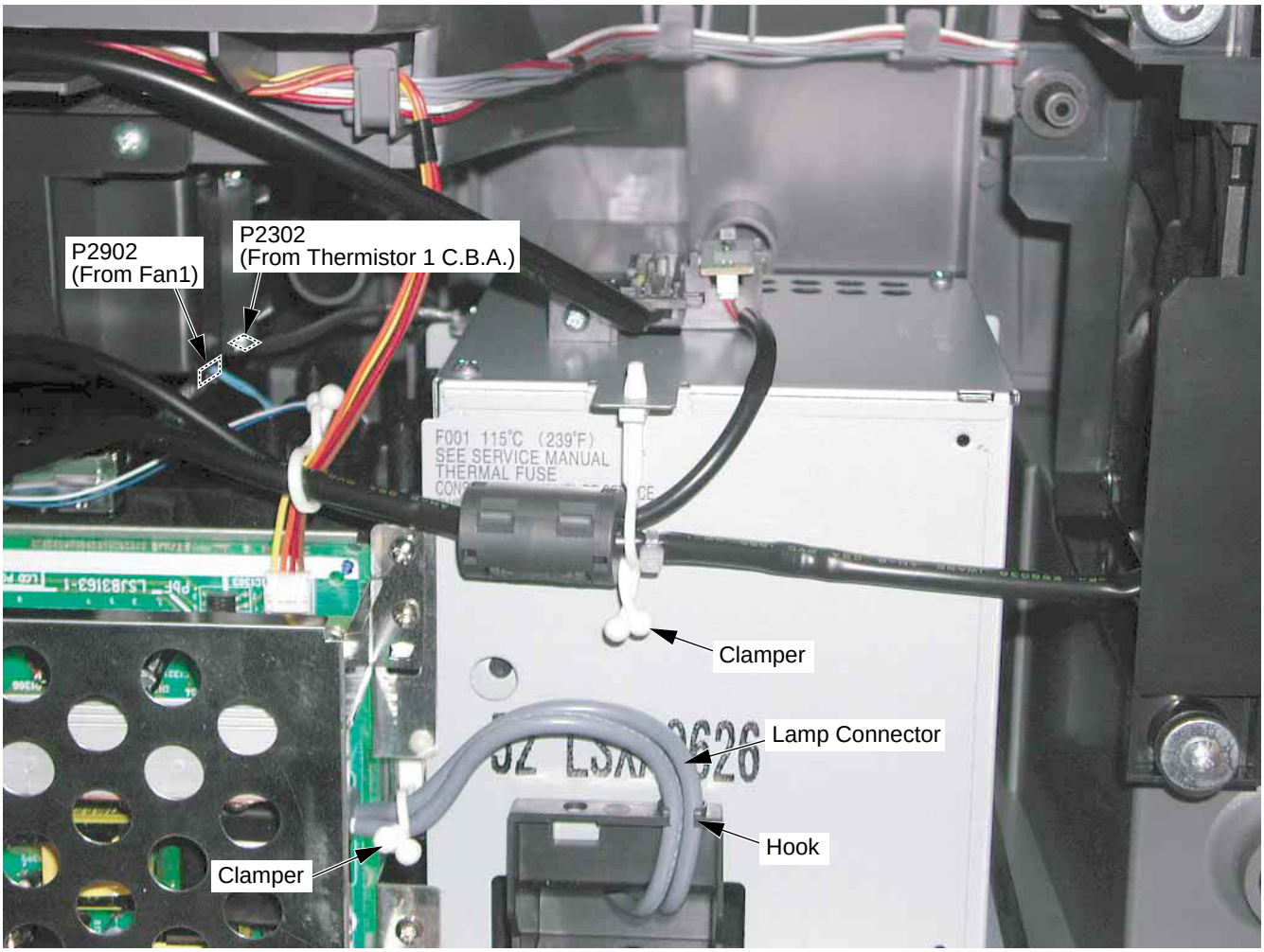


Fig. 9-5

After servicing, make sure that all wires, leads, and clampers are placed in their original position. It is important for the best operation of the unit.
Note: Use extreme care especially for the following.

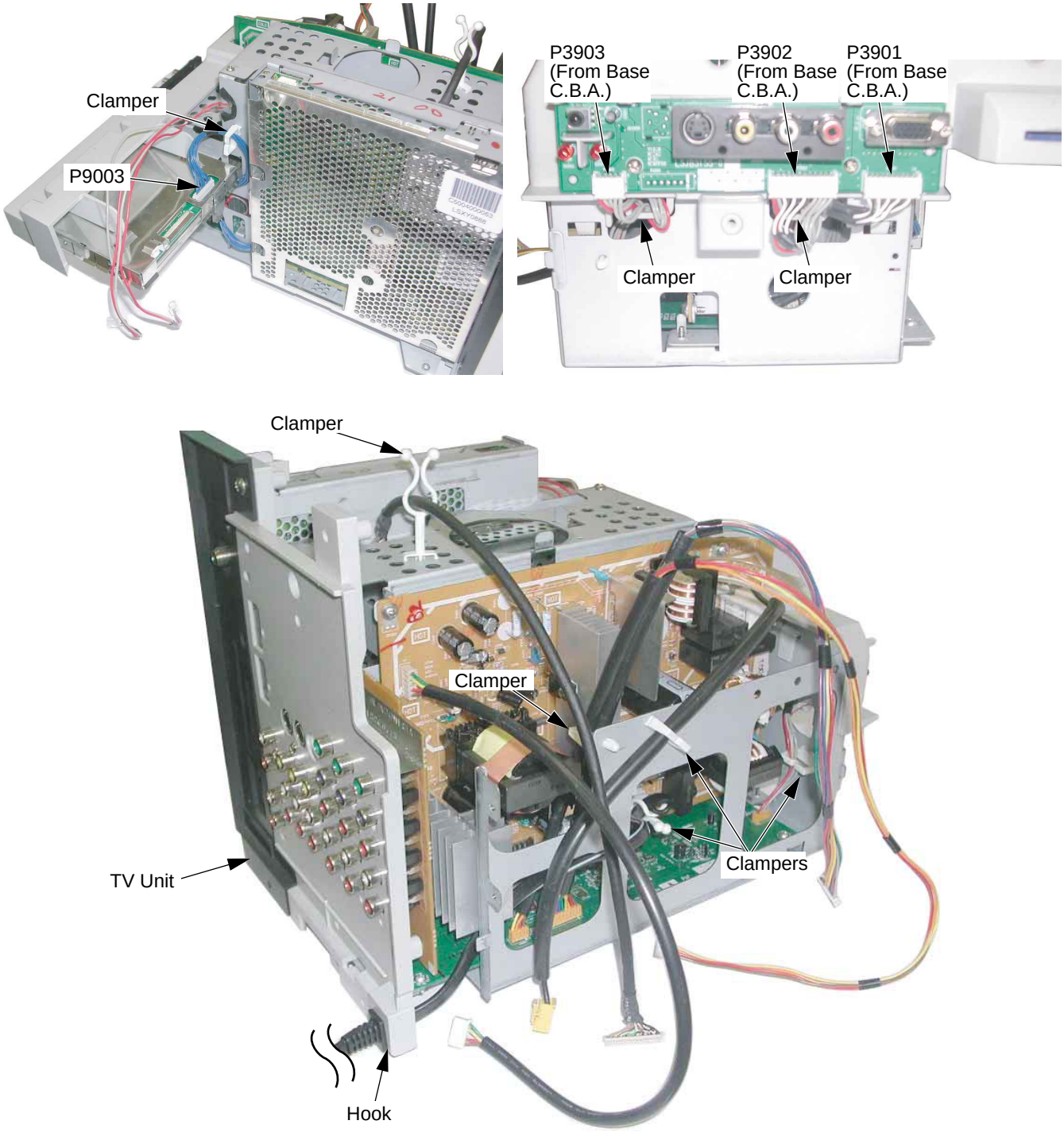


Fig. 9-6

5 DISASSEMBLY / ASSEMBLY PROCEDURES

5.1. CABINET SECTION

CABINET SECTION

DISASSEMBLY METHOD OF CABINET SECTION

Cabinet section contains following removal procedures:

REMOVAL OF THE BALLAST C.B.A. AND THE PROJECTION UNIT FROM THE CABINET

REMOVAL OF THE TV UNIT AND THE DIGITAL TUNER C.B.A. FROM THE CABINET

REMOVAL OF THE BASE BODY UNIT

REMOVAL OF THE FRONT JACK C.B.A., THE CARD C.B.A., THE REAR JACK C.B.A., THE POWER C.B.A., THE MAIN C.B.A. AND THE BASE C.B.A. FROM THE TV UNIT

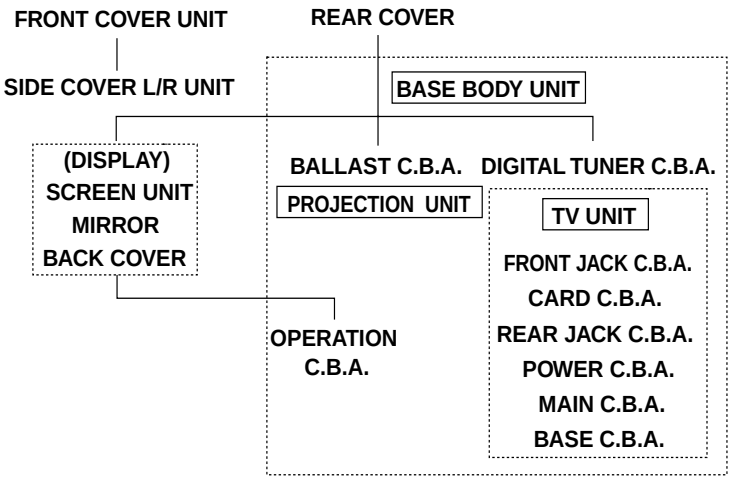
REMOVAL OF THE SCREEN UNIT FROM THE DISPLAY

REMOVAL OF THE MIRROR FROM THE BACK COVER

REMOVAL OF THE OPERATION C.B.A. FROM THE CABINET

DISASSEMBLY FLOWCHART

This flow chart indicates the disassembly steps of the cabinet parts and the P.C.Boards in order to gain access to item (s) to be serviced. When reassembling, perform the step (s) in the reverse order. Bend, route and dress the wires as they were originally.



Note :

a. Place a cloth or some other soft material under the P.C. Boards or Unit to prevent damage.
b. When reinstalling, ensure that the connectors are connected firmly and electrical components have not been damaged.
c. Do not supply power to the unit during disassembly and reassembly.

REMOVAL OF THE BALLAST C.B.A. AND THE PROJECTION UNIT FROM THE CABINET

1. **(PT-44LCX65/PT-52LCX65)**
   Remove the Rear Cover by removing the 18 (or 21: **PT-52LCX65**) Screws (401, 454) then pinching the 4 latch tabs.

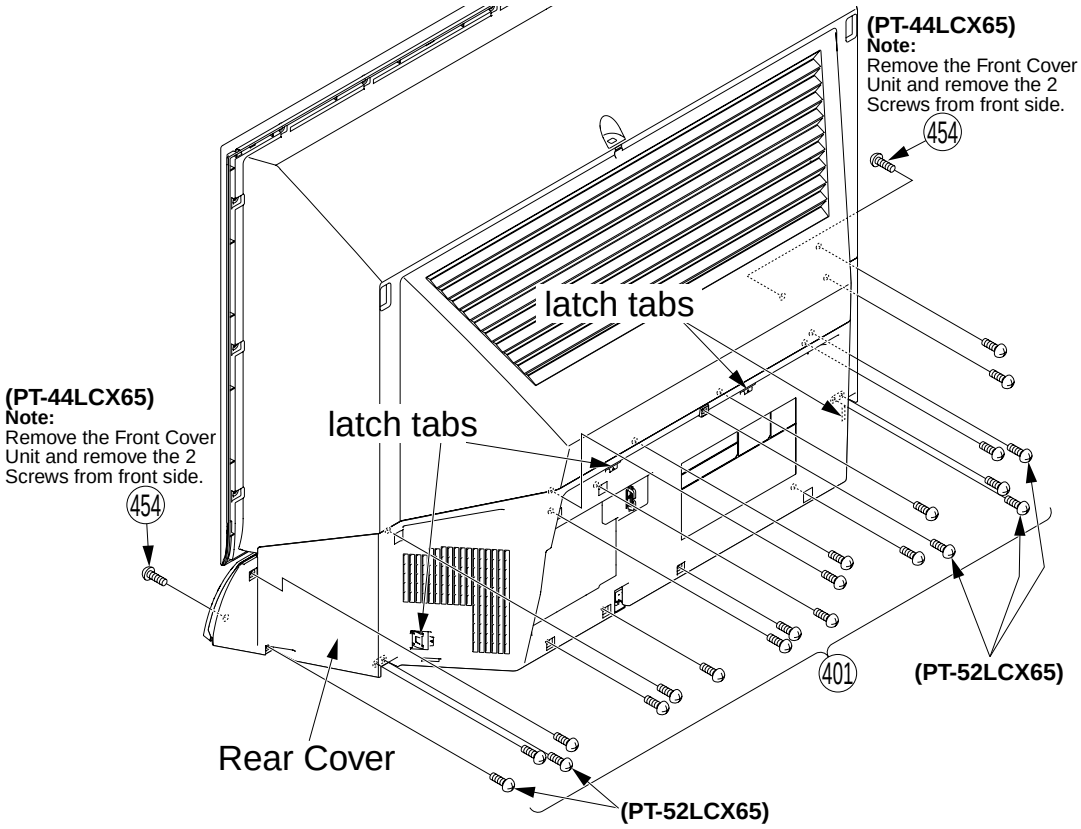


Fig. D1-1-1

(PT-61LCX65)
Remove the Rear Cover by removing the 25 Screws (401) then pinching the 4 latch tabs.

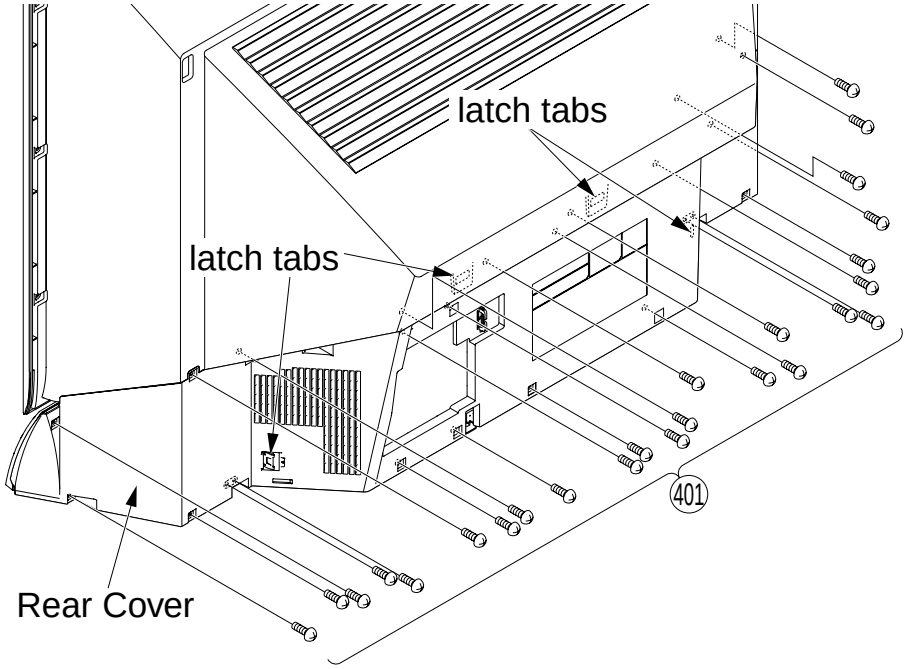
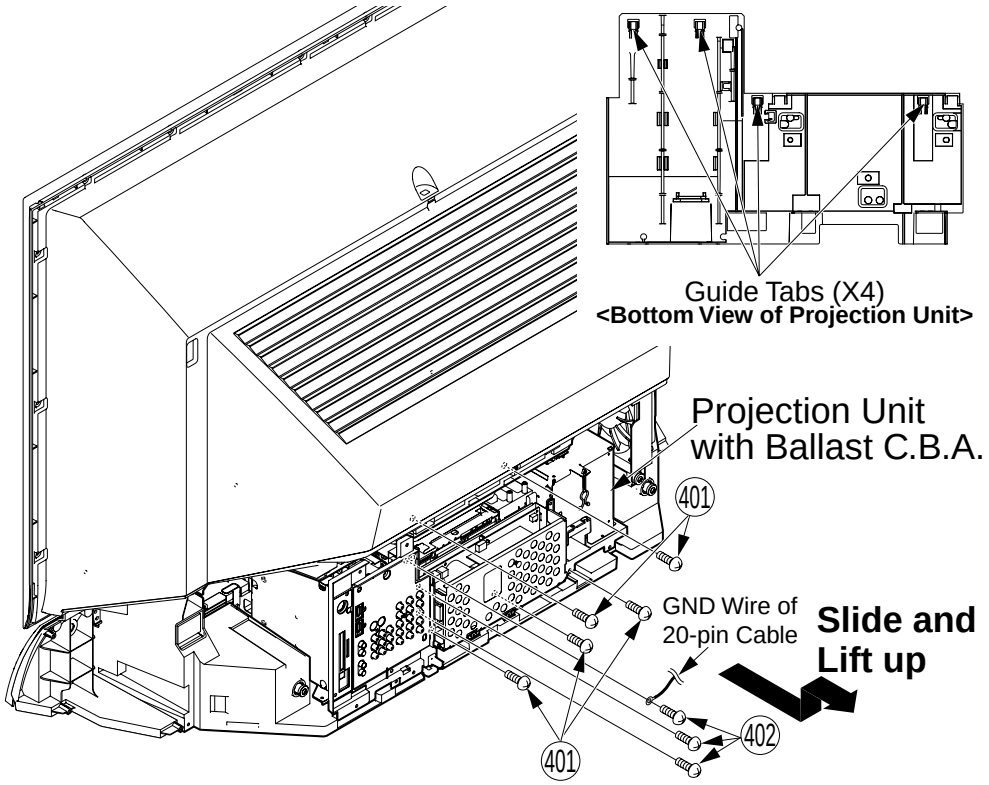
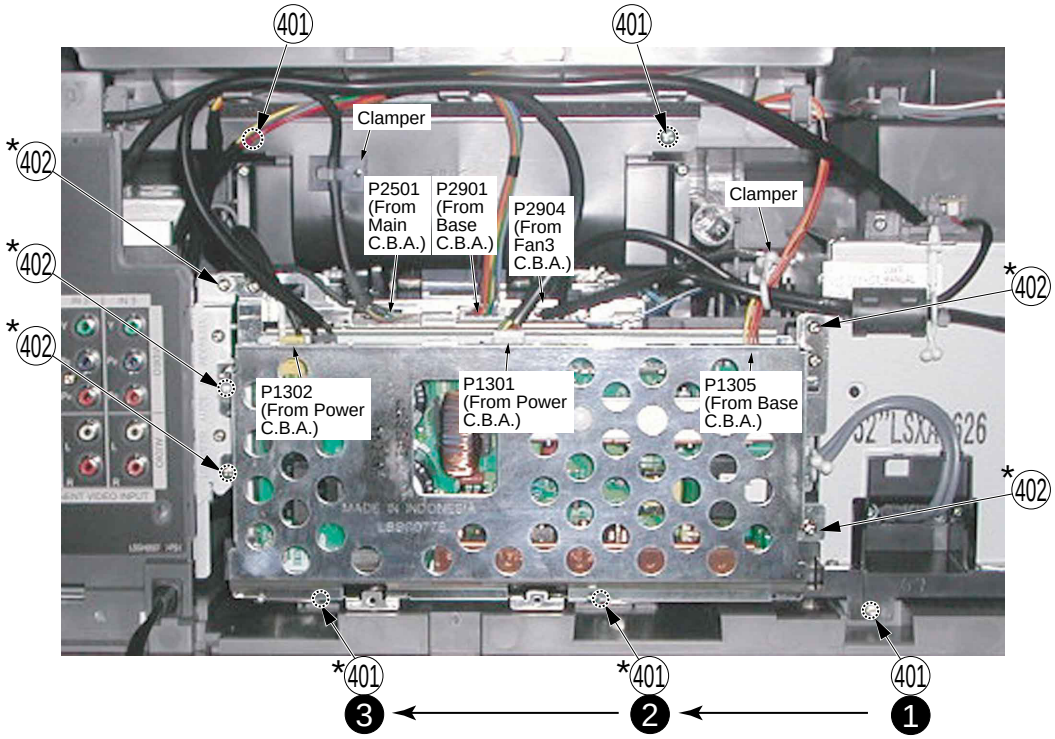


Fig. D1-1-2

2. 1) Disconnect Connectors P1301, P1302, P1305, P2501 (20-pin Cable), P2901, P2904.
   Note: Take extreme care not to damage the 20-pin Cable when disconnecting.
   2) Remove the 5 Screws (401) and the 3 Screws (402).
   3) Slide and lift up the Projection Unit with the Ballast C.B.A. by releasing the 4 Guide Tabs.



***: The 2 Screws *(401) and the 5 Screws *(402) are for removing the Ballast C.B.A.**



Reassembly Note: When installing, tighten the 3 Screws (401) ❶ ❷ ❸ in order.

Fig. D1-2

3. 1) Disconnect the Connector P1306.
   2) Remove the 2 Screws (451) and disconnect the Lamp Connector while releasing the hook.
   3) Remove the Ballast C.B.A. by releasing the 2 Screws (402).

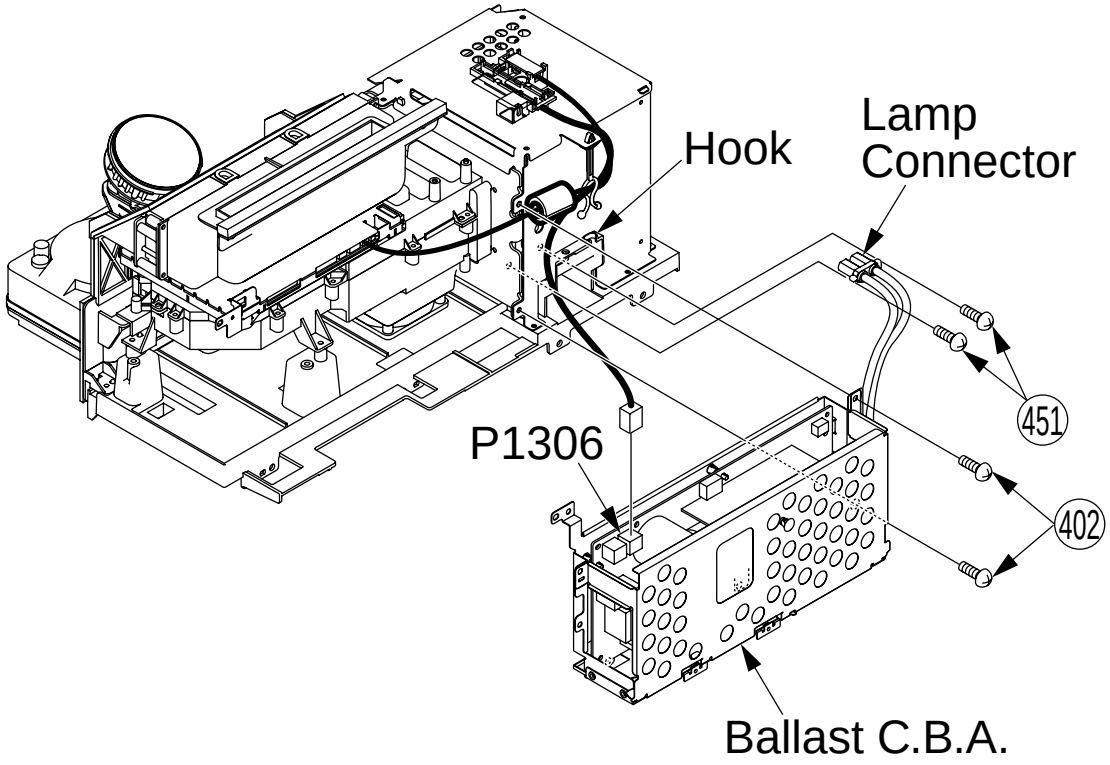


Fig. D1-3

4. 1) Remove the Top Duct 3 Unit by removing the 4 Screws (421).

CAUTION:

When removing the Screws (421) on the Top Duct 3 Unit, plastic dust may be produced. Therefore, confirm that there is no dust on the Top Duct 3 Unit. If there is dust, clean the Top Duct 3 Unit with a brush, etc. Otherwise, dust may adhere to the inside of the screen.

2) Remove the Lamp from the Projection Unit by loosening the Screw.

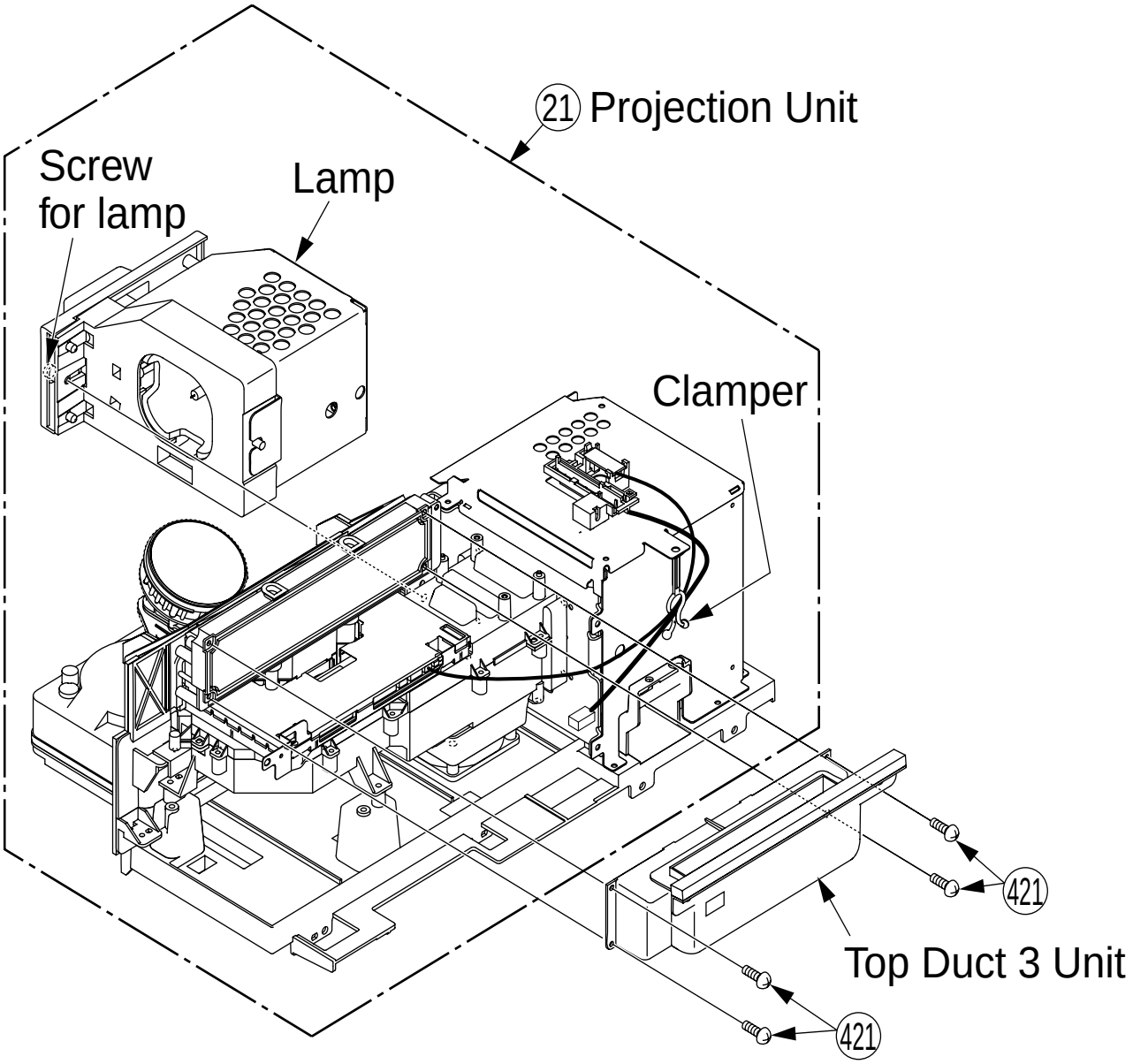


Fig. D1-4

Note:

After replacing the Projection Unit, be sure to perform "ADJUSTMENT of Projection Unit." Refer to "WHEN REINSTALLING THE PROJECTION UNIT OR THE BASE BODY UNIT INTO THE UNIT AT THE USER'S LOCATION:."

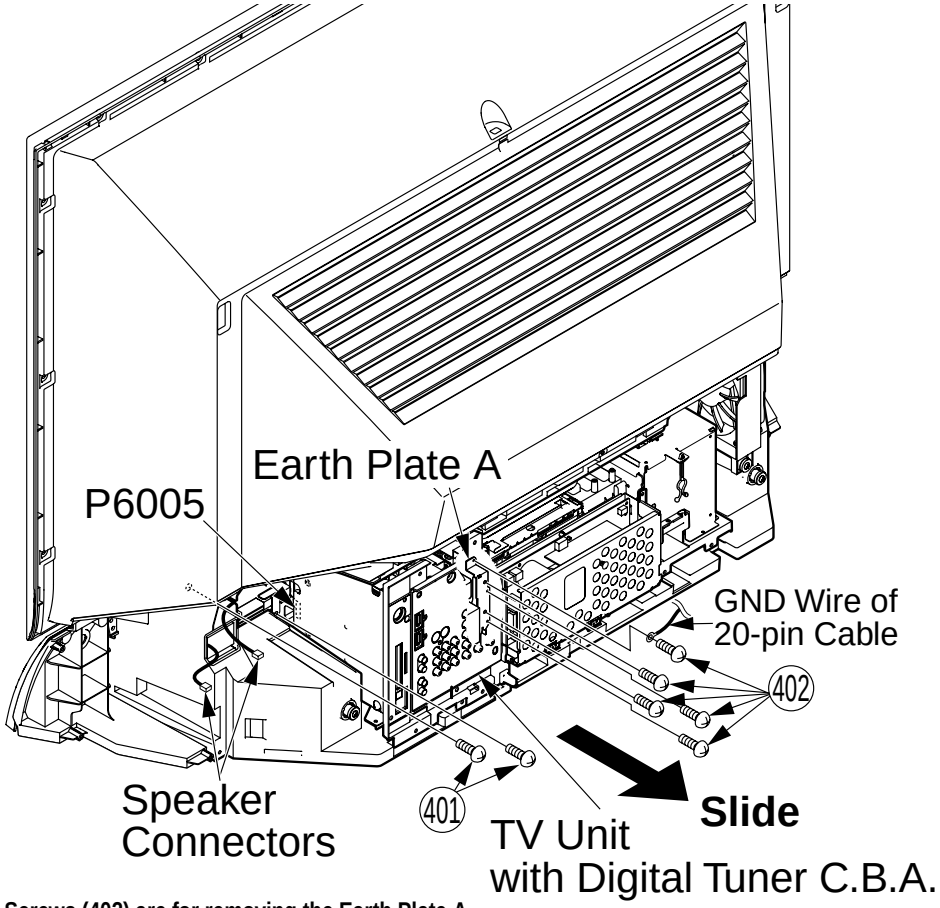
Replacement Note of Projection Unit:

These parts will be necessary when replacing. Set aside, and keep and re-use.

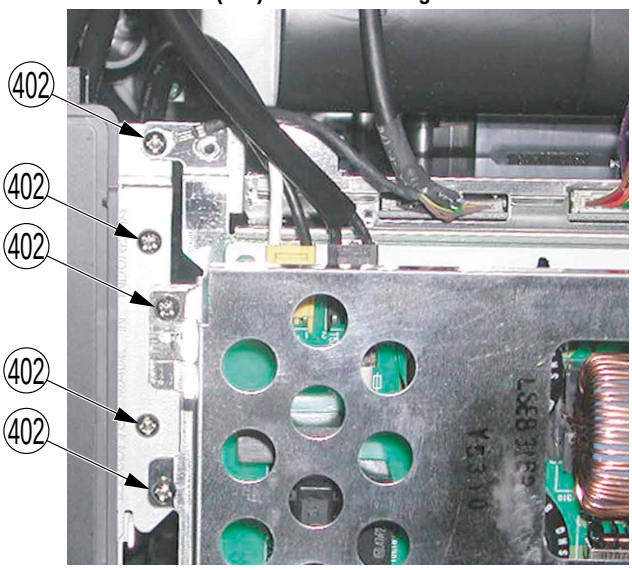
- Top Duct 3 Unit

REMOVAL OF THE TV UNIT AND THE DIGITAL TUNER C.B.A. FROM THE CABINET

1. Remove the Rear Cover. Refer to Step 1 in "REMOVAL OF THE BALLAST C.B.A. AND THE PROJECTION UNIT FROM THE CABINET."
2. 1) Remove the 2 Screws (401) and the 5 Screws (402) on the Earth Plate A. Then, remove the Earth Plate A.
   2) Disconnect Connector P1301, P1302, P1305, P2501 (20-pin Cable), P2901 and the 2 Speaker Connectors.
   Note: Take extreme care not to damage the 20-pin Cable when disconnecting.
   3) Slide the TV Unit with the Digital Tuner C.B.A. slightly, and disconnect Connector P6005.
   4) Remove the TV Unit with the Digital Tuner C.B.A.



The 5 Screws (402) are for removing the Earth Plate A



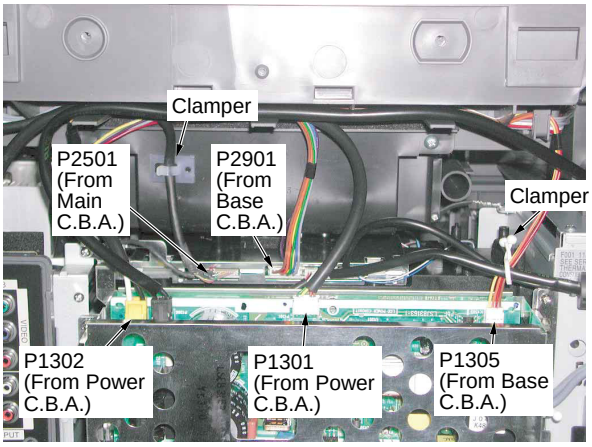


Fig. D2-1

3. 1) Remove the DTV Jack Holder by removing the Screw (402).
   2) Disconnect Connector DT10.
   3) Remove the Digital Tuner C.B.A. by removing the 5 Screws (480). (BtoB Connector DT12 is disconnected.)

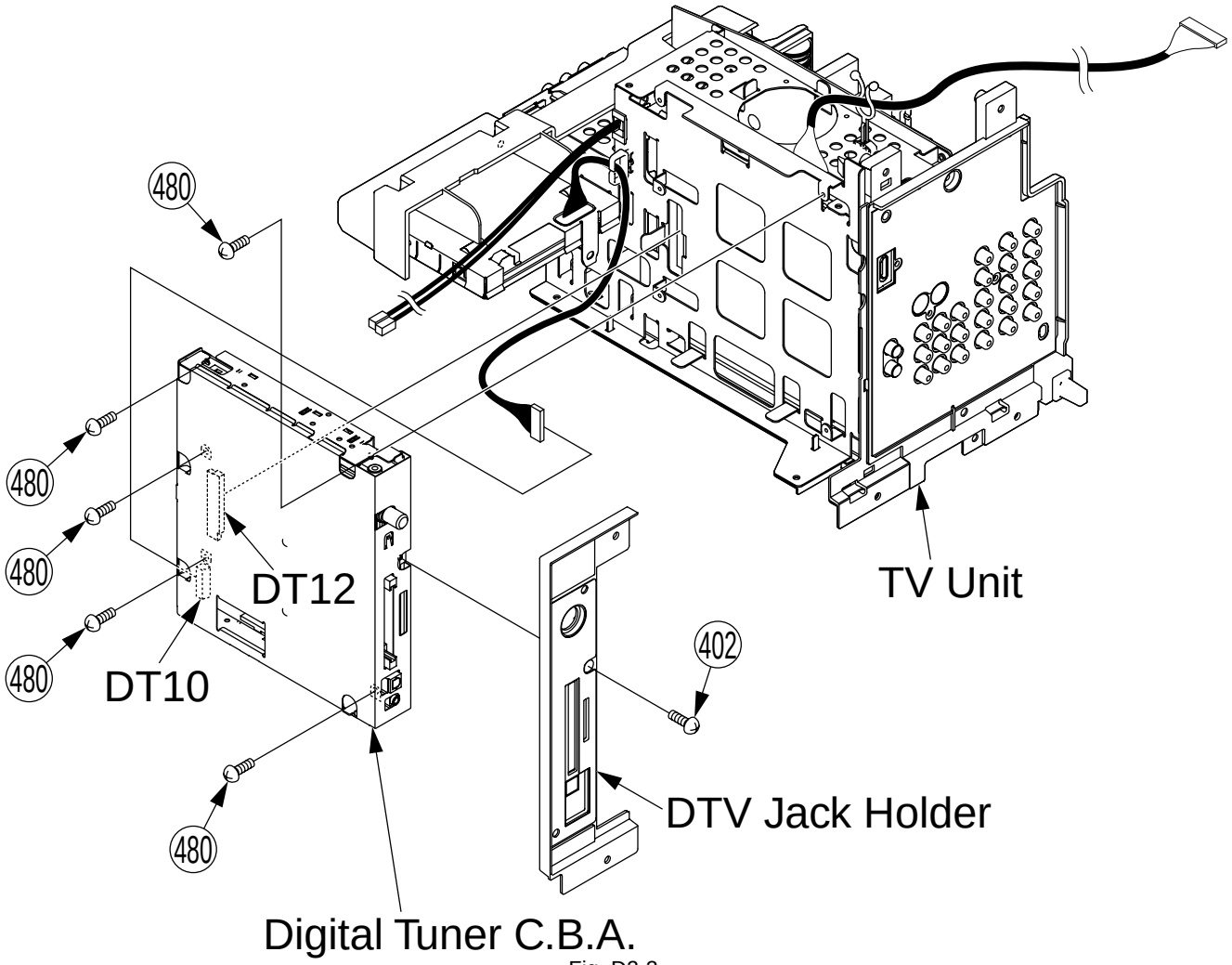


Fig. D2-2

REMOVAL OF THE BASE BODY UNIT

1. Remove the Rear Cover. Refer to Step 1 in "REMOVAL OF THE BALLAST C.B.A. AND THE PROJECTION UNIT FROM THE CABINET."
2. Remove the 3 **(PT-44/52LCX65)** or the 5 **(PT-61LCX65)** Screws (401) from rear side, and remove the Display.

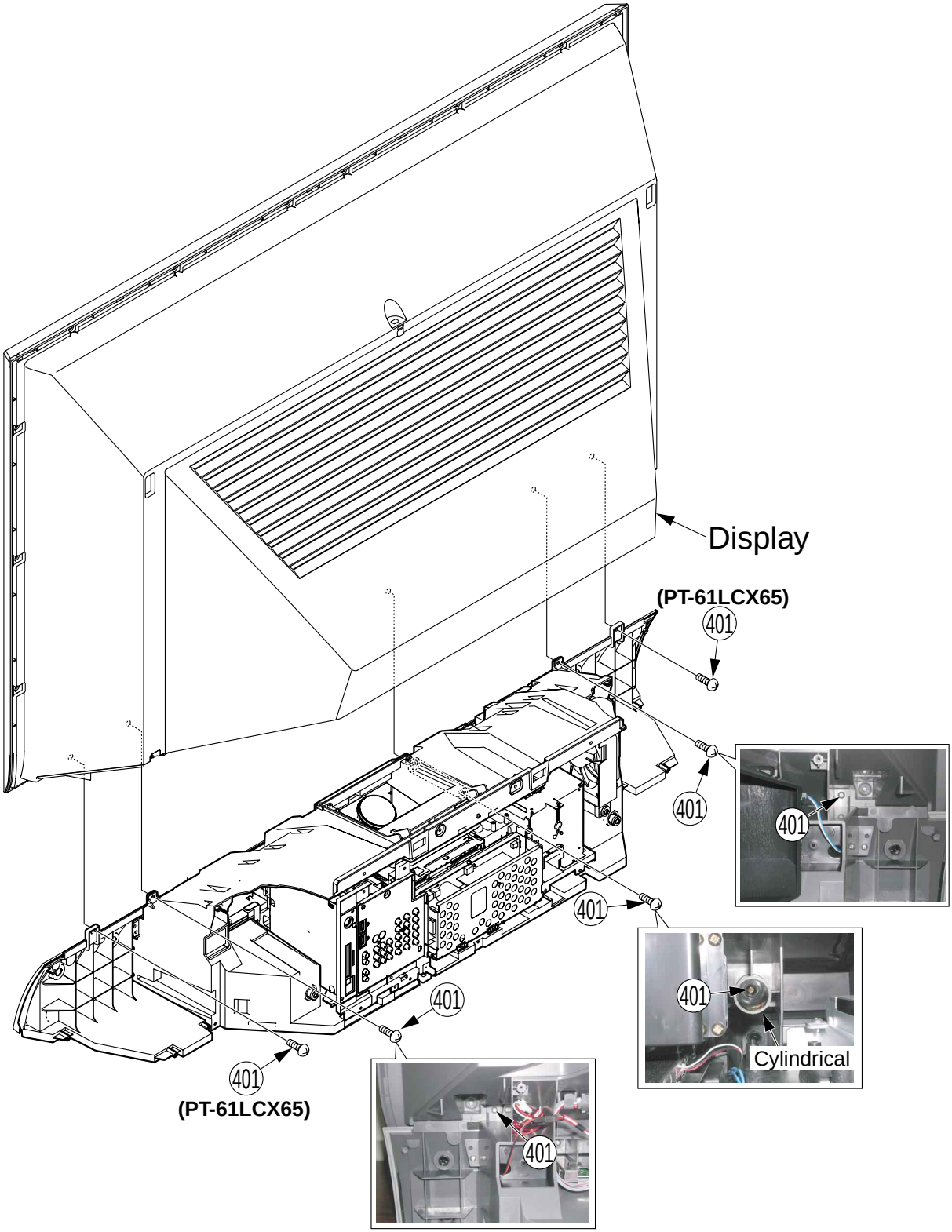


Fig. D3-1

3. 1) Remove the Front Cover Unit from the latches.
   2) Remove the Side Cover L/R Unit by removing the 6 (or 8: **PT-52LCX65/PT-61LCX65**) Screws (401, 454).

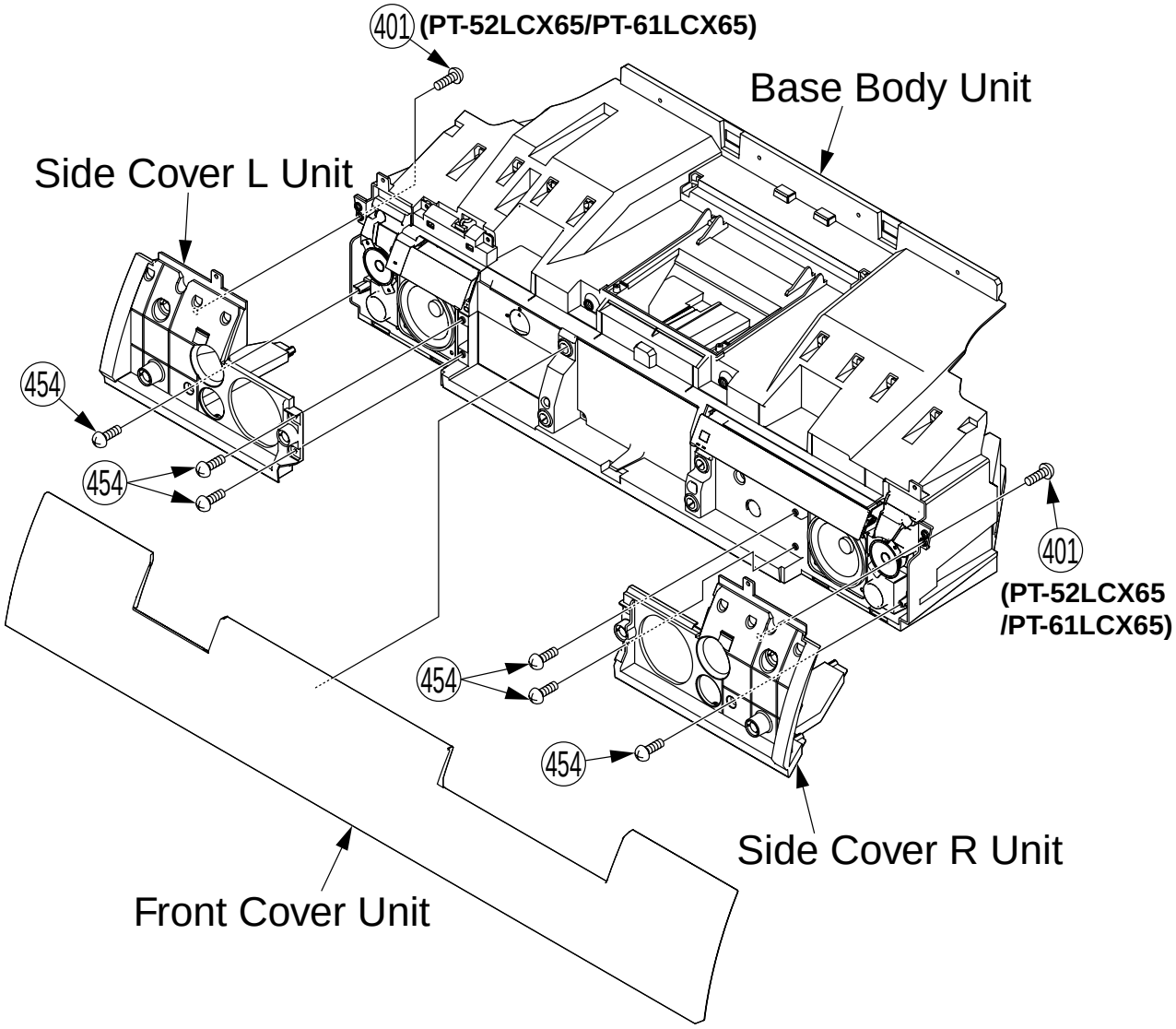


Fig. D3-2

Note:
After replacing the Base Body Unit, be sure to perform "ADJUSTMENT of Projection Unit." Refer to "WHEN REINSTALLING THE PROJECTION UNIT OR THE BASE BODY UNIT INTO THE UNIT AT THE USER'S LOCATION:."

REMOVAL OF THE FRONT JACK C.B.A., THE CARD C.B.A., THE REAR JACK C.B.A., THE POWER C.B.A., THE MAIN C.B.A. AND THE BASE C.B.A. FROM THE TV UNIT

CAUTION:
Be sure to make a note of the CURRENT LAMP value (value A) in Service Mode (1/3):
LAMP OPERATION TIME is stored in EEPROM on the Main C.B.A. Therefore, before removing the Main C.B.A. or the TV Unit at the user's location, make a note of the CURRENT LAMP value (value A) in Service Mode (1/3).
Then, after installing the new Main C.B.A. or the TV Unit at the user's location, set the CURRENT LAMP value to the original value (value A) in Service Mode.
Otherwise, OSD and LED Lamp replacement indications will be displayed at the wrong time.

Note:
In case it is impossible to make a note of the CURRENT LAMP value because of a defective Main C.B.A., ask the customer their daily average use and the approximate age of the current Lamp. Then, calculate the CURRENT LAMP value as follows and make a note.

Daily average use (hours)	X	Approx. age (days)	=	**CURRENT LAMP** (hours)

1. Remove the TV Unit. Refer to Steps 1~3 in "REMOVAL OF THE TV UNIT AND THE DIGITAL TUNER C.B.A. FROM THE CABINET."
2. 1) Remove the Front Jack Earth Plate by removing the Screw (402).
   2) Disconnect Connector P3901, P3902, P3903.
   3) Remove the Front Jack C.B.A. by removing the 2 Screws (421).
   4) Remove the Front Jack Holder with the Card C.B.A. by removing the Screw (402) then releasing the 2 Locking Tabs.
   5) Remove the Card C.B.A. by removing the 2 Screws (421).

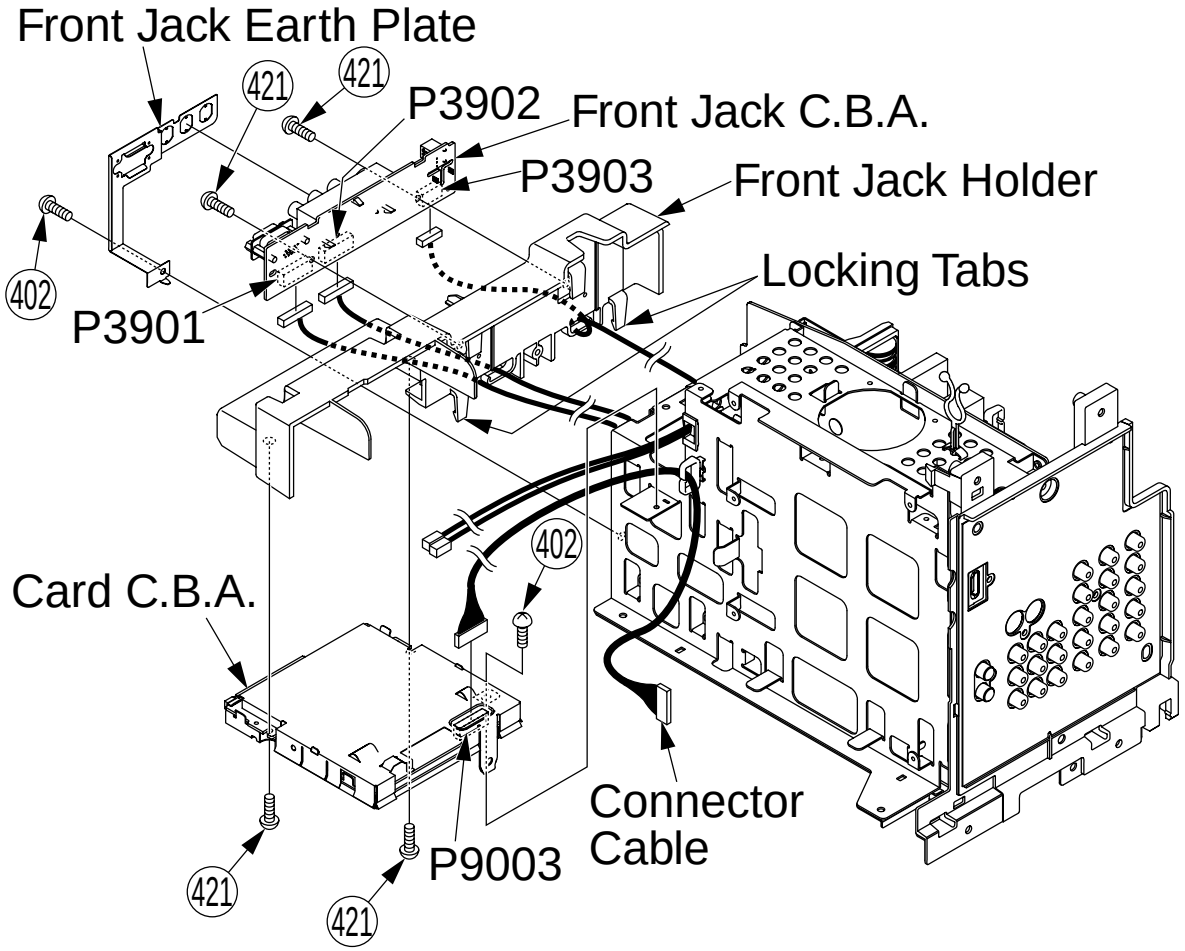


Fig. D4-1

Replacement Note of Card C.B.A.:
These parts will be necessary when replacing. Set aside, and keep and re-use.
- P9003 Connector Cable

3. 1) Release the AC Cord from the slot of the Rear Jack Holder.
   2) Remove the Rear Jack Holder by removing the 5 Screws (402) then releasing the 3 Locking Tabs.
   3) Remove the Screw (402), and pull off the Rear Jack C.B.A. (BtoB Connector P3501 is disconnected.)

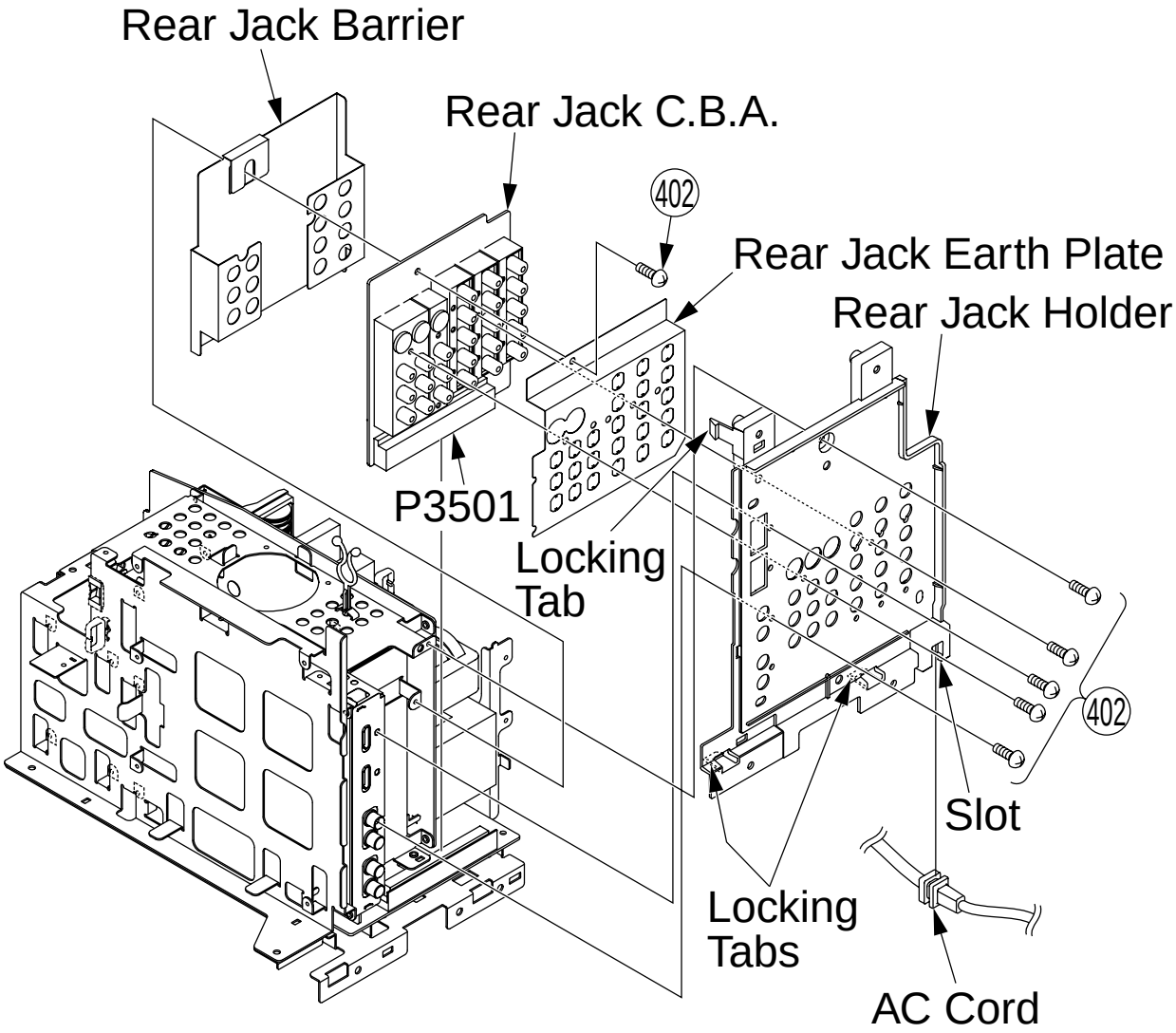


Fig. D4-2

Replacement Note of Rear Jack C.B.A.:
These parts will be necessary when replacing. Set aside, and keep and re-use.
- Rear Jack Earth Plate
- Rear Jack Barrier

4. 1) Remove the 5 Screws (402). Then, pull off the Power C.B.A. with the P.C.B. Power Angle while releasing the clamper. (BtoB Connector P1006 is disconnected.)
   2) Remove the Power C.B.A. by removing the 4 Screws (479).

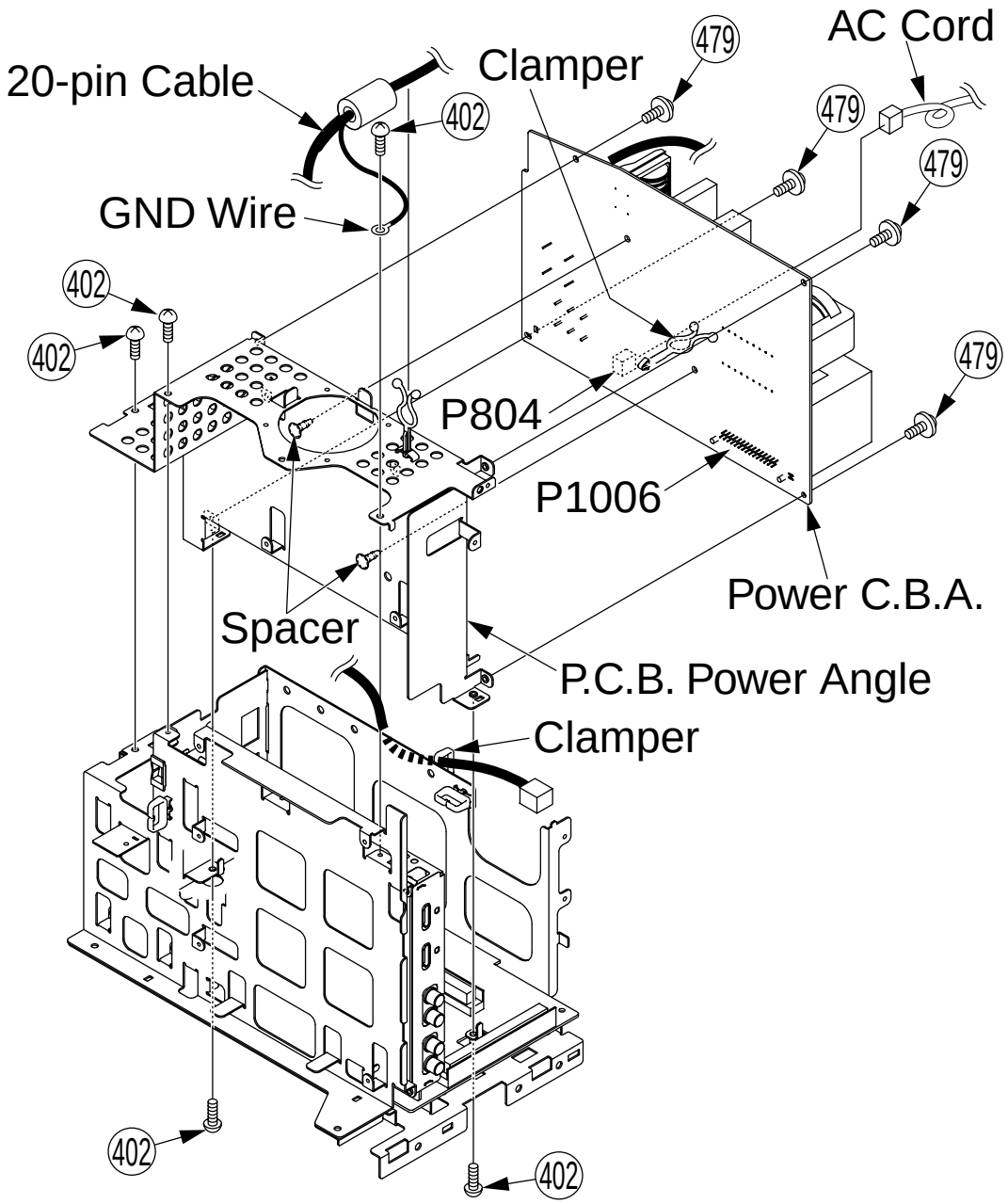


Fig. D4-3

5. 1) Remove the 2 Screws (402). Then, pull off the Main C.B.A. with the P.C.B. Main Angle. (BtoB Connector P3401 is disconnected.)
   2) Remove the Main C.B.A. by removing the 5 Screws (479).

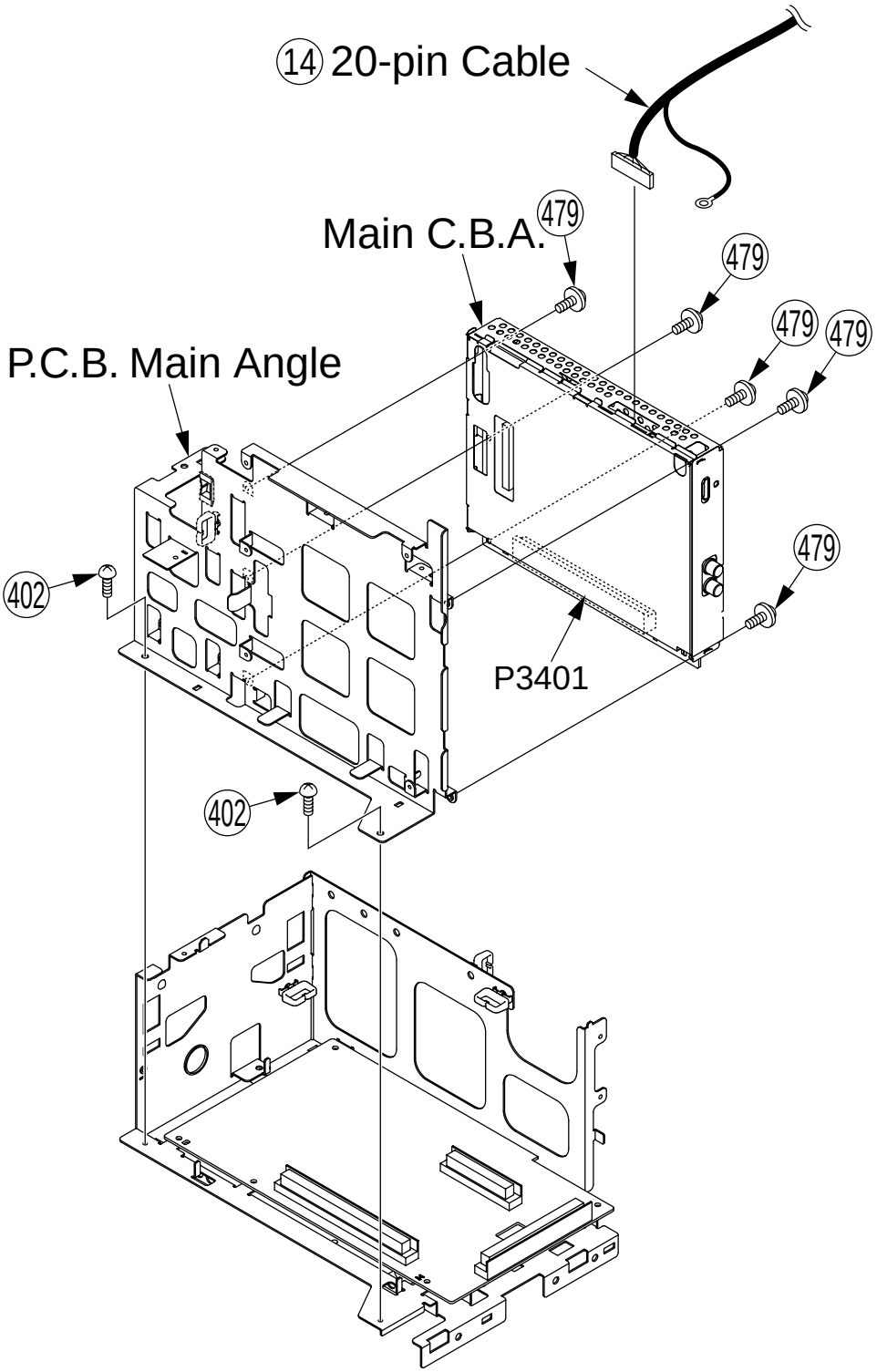


Fig. D4-4

Replacement Note of Main C.B.A.:
These parts will be necessary when replacing. Set aside, and keep and re-use.
- 20-pin Cable

6. Remove the Base C.B.A. by removing the 4 Screws (479) then releasing the clampers.

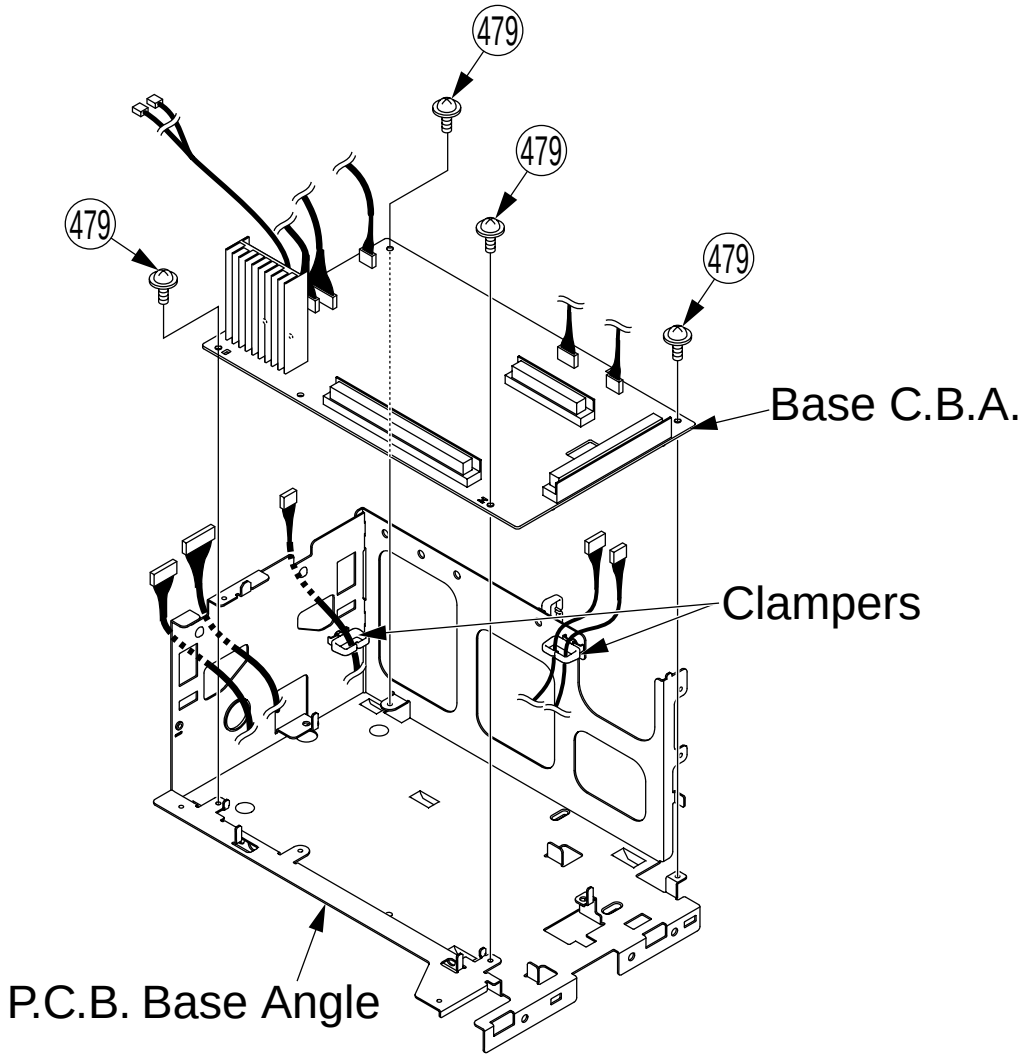


Fig. D4-5

REMOVAL OF THE SCREEN UNIT FROM THE DISPLAY

1. Remove the DISPLAY. Refer to Steps 1~2 in "REMOVAL OF THE BASE BODY UNIT."
2. **(PT-44LCX65/PT-52LCX65)**
   Remove the Screen Unit by removing the 16 Screws (401).

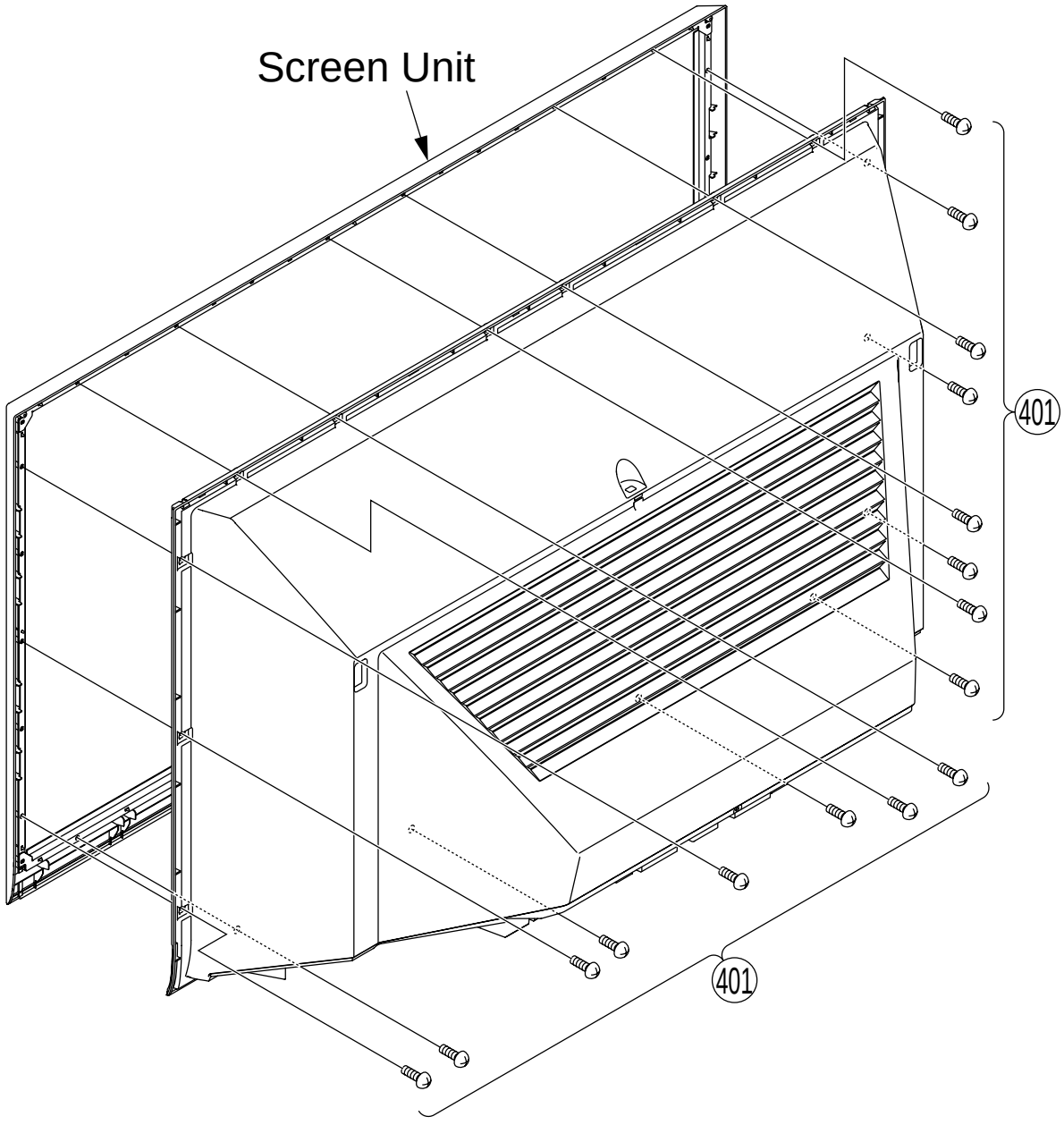


Fig. D5-2-1

(PT-61LCX65)
Remove the Screen Unit by removing the 17 Screws (401).

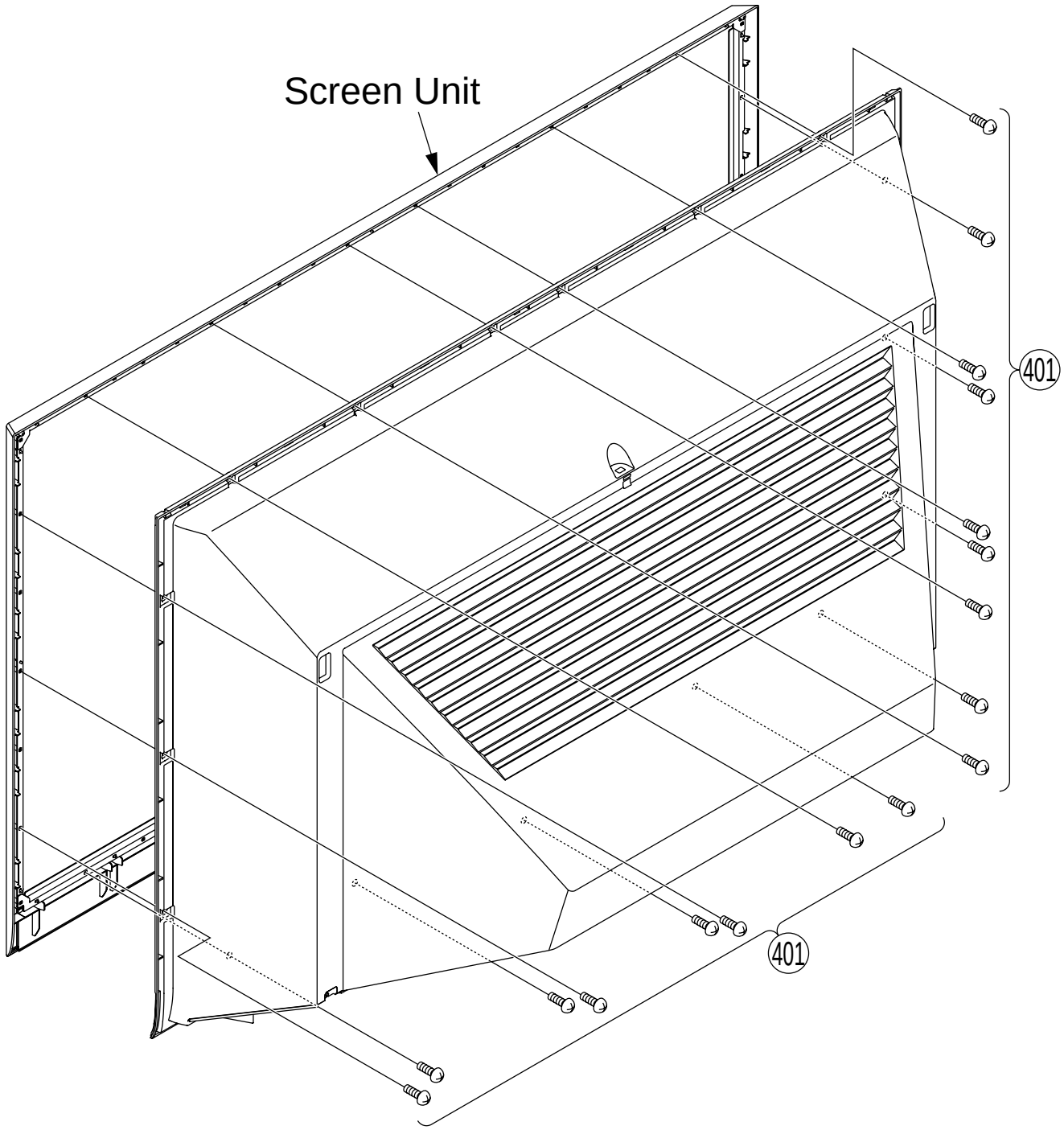


Fig. D5-2-2

3. **(PT-44LCX65/PT-52LCX65)**
Remove the 2 Screen Angle H Unit and the 2 Screen Angle V Unit by removing the 14 Screws (465), and remove the Fresnel Lens and the Lenticular Screen.

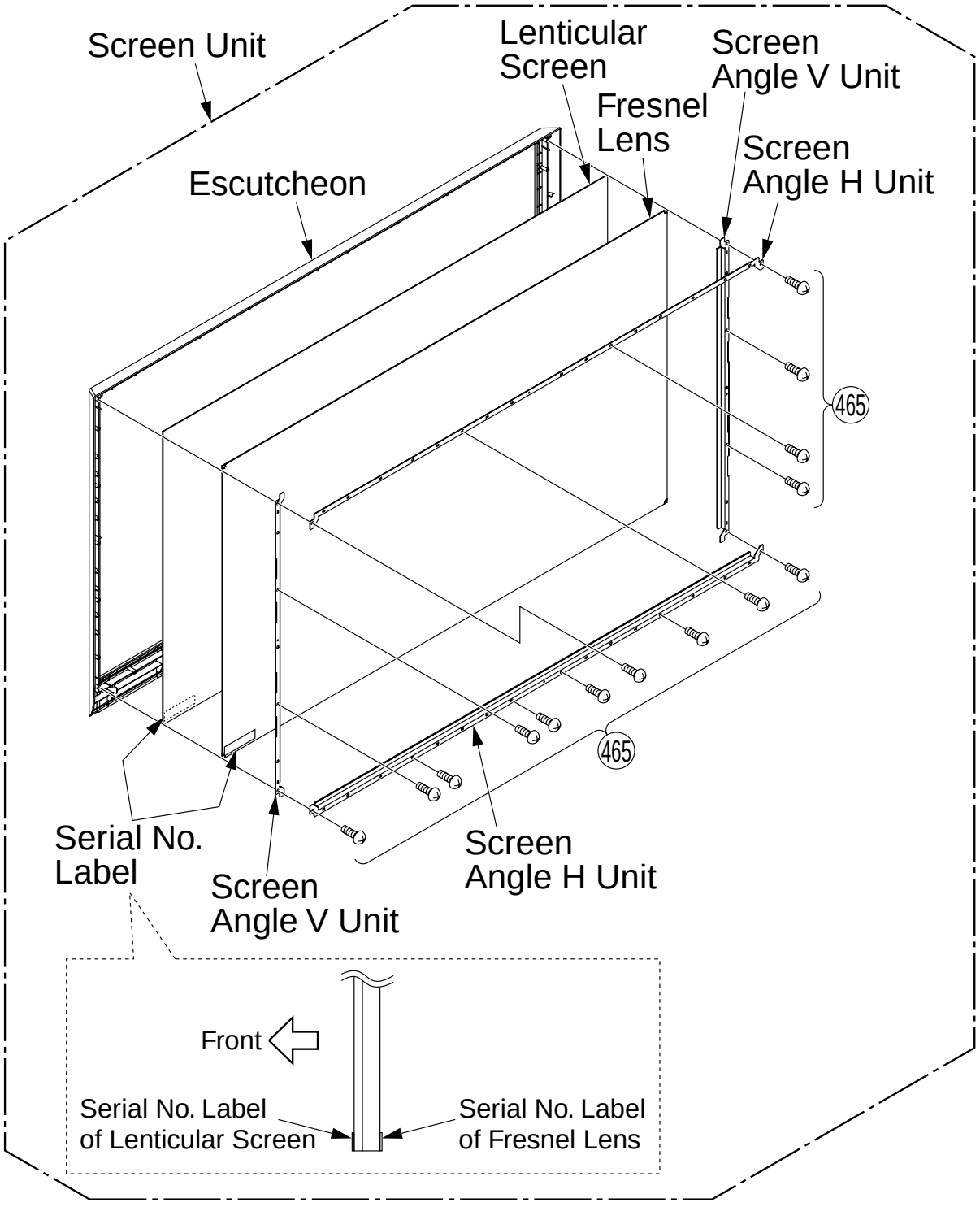


Fig. D5-3-1

Reassembly Note:
Install them so that Serial No. Labels are on the each outside as shown above.

Replacement Note for Screen Unit:
The Screen Unit is supplied as a unit, or the individual parts (Fresnel Lens, Lenticular Screen) in the Screen Unit are also supplied. When replacing the Fresnel Lens and the Lenticular Screen, take care that dust, etc., does not adhere between the Fresnel Lens and the Lenticular Screen. Due to this risk, it is strongly recommended to replace the Screen Unit as a unit.

(PT-61LCX65)
Remove the 2 Screen Angle H Unit and the 2 Screen Angle V Unit by removing the 18 Screws (465), and remove the Fresnel Lens and the Lenticular Screen.

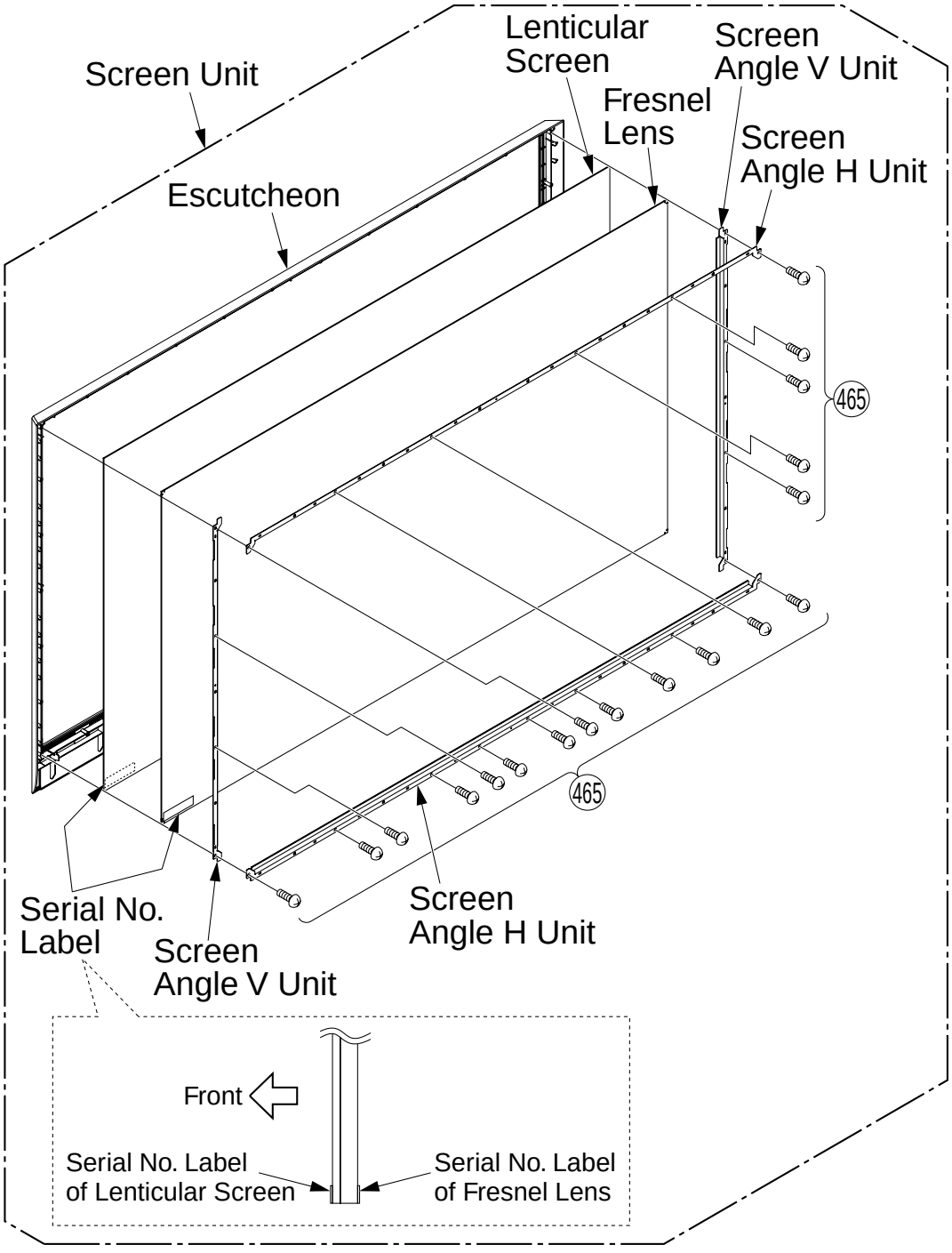


Fig. D5-3-2

Reassembly Note:
Install them so that Serial No. Labels are on the each outside as shown above.

Replacement Note for Screen Unit:
The Screen Unit is supplied as a unit, or the individual parts (Fresnel Lens, Lenticular Screen) in the Screen Unit are also supplied. When replacing the Fresnel Lens and the Lenticular Screen, take care that dust, etc., does not adhere between the Fresnel Lens and the Lenticular Screen. Due to this risk, it is strongly recommended to replace the Screen Unit as a unit.

REMOVAL OF THE MIRROR FROM THE BACK COVER

1. Remove the Screen Unit. Refer to Steps 1~4 in "REMOVAL OF THE SCREEN UNIT FROM THE DISPLAY."
2. **(PT-44LCX65/PT-52LCX65)**
   1) Remove the 2 Mirror Holder H and the 2 Mirror Holder V Unit **(PT-52LCX65)** by removing the 4 (or 8: **PT-52LCX65**) Screws (401).
   2) Remove the Mirror from the top by releasing the Back Cover slots.

   Note: Be careful that the Mirror does not fall down when removing.

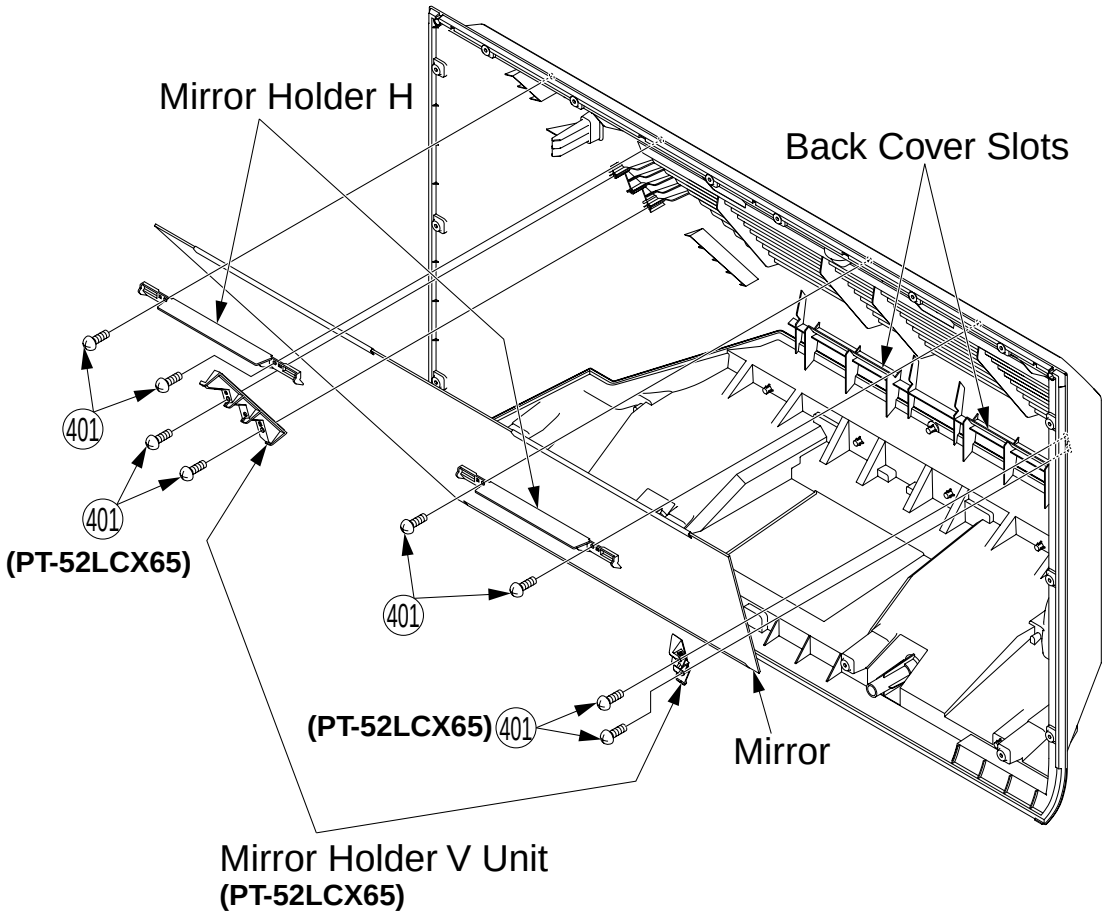
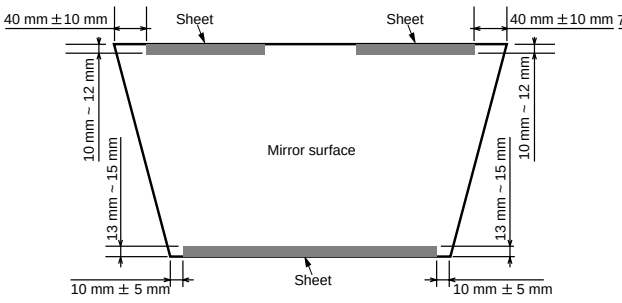


Fig. D6-1-1

Reassembly Notes for Mirror:
Install the Mirror as following procedures:

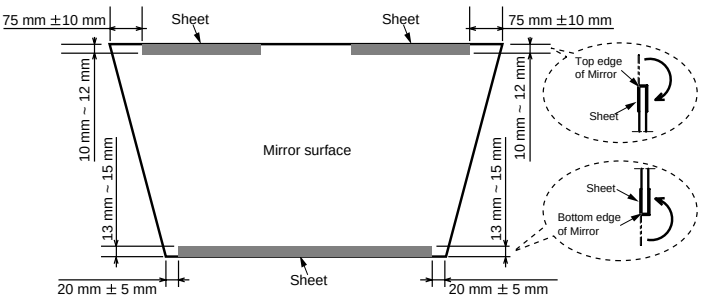
1) Place the 3 sheets on the top and bottom edges of the Mirror.

(PT-44LCX65)



<Front View>

(PT-52LCX65)



<Front View>

2) Hold the sheet portions of the Mirror, and insert the Mirror from the top into the Back Cover slots carefully. When handling the Mirror, do not touch the Mirror surface.
3) Install the 2 Mirror Holder H and the 2 Mirror Holder V Unit **(PT-52LCX65)** on the Mirror and tighten the 4 (or 8: **PT-52LCX65**) Screws (401).

(PT-61LCX65)

1) Remove the 3 Mirror Holder H and the 2 Mirror Holder V Unit by removing the 10 Screws (401).
2) Remove the Mirror from the top by releasing the Back Cover slots.

Note: Be careful that the Mirror does not fall down when removing.

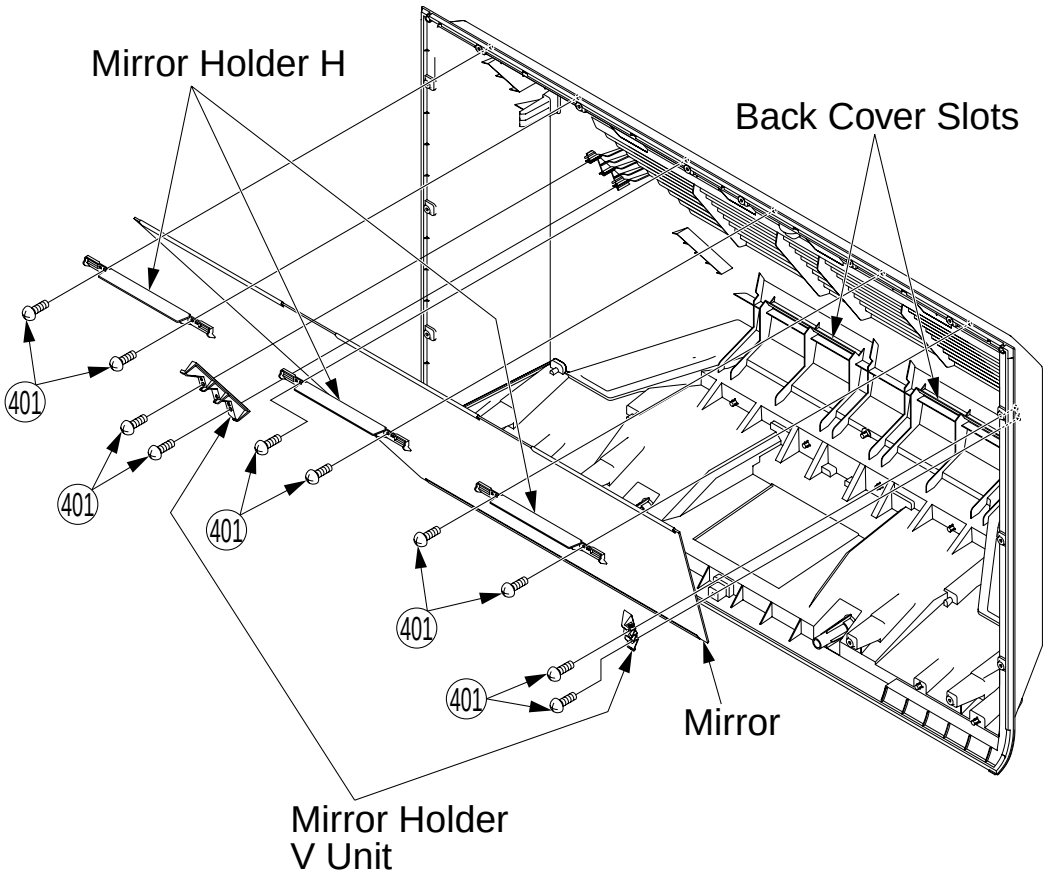
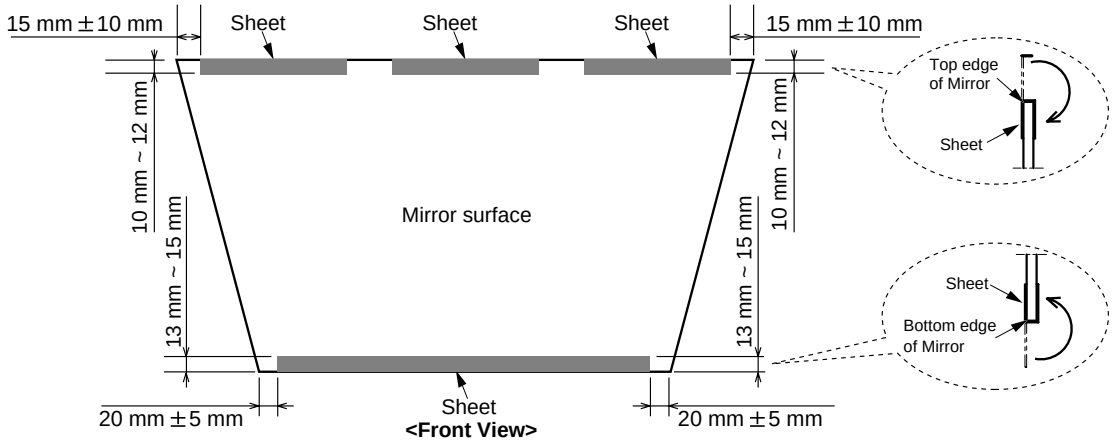


Fig. D6-1-2

Reassembly Notes for Mirror:
Install the Mirror as following procedures:

1) Place the 4 sheets on the top and bottom edges of the Mirror.



2) Hold the sheet portions of the Mirror, and insert the Mirror from the top into the Back Cover slots carefully. When handling the Mirror, do not touch the Mirror surface.
3) Install the 3 Mirror Holder H and the 2 Mirror Holder V Unit on the Mirror and tighten the 10 Screws (401).

REMOVAL OF THE OPERATION C.B.A. FROM THE CABINET

1. Remove the Display and the Front Cover Unit. Refer to Step 1 ~ 2 in "REMOVAL OF THE BASE BODY UNIT."
2. 1) Disconnect Connector P6701.
   2) Remove the Operation Holder Unit with the Operation C.B.A. by removing the 2 Screws (401).
   3) Remove the Operation C.B.A. by removing the 2 Screws (421).

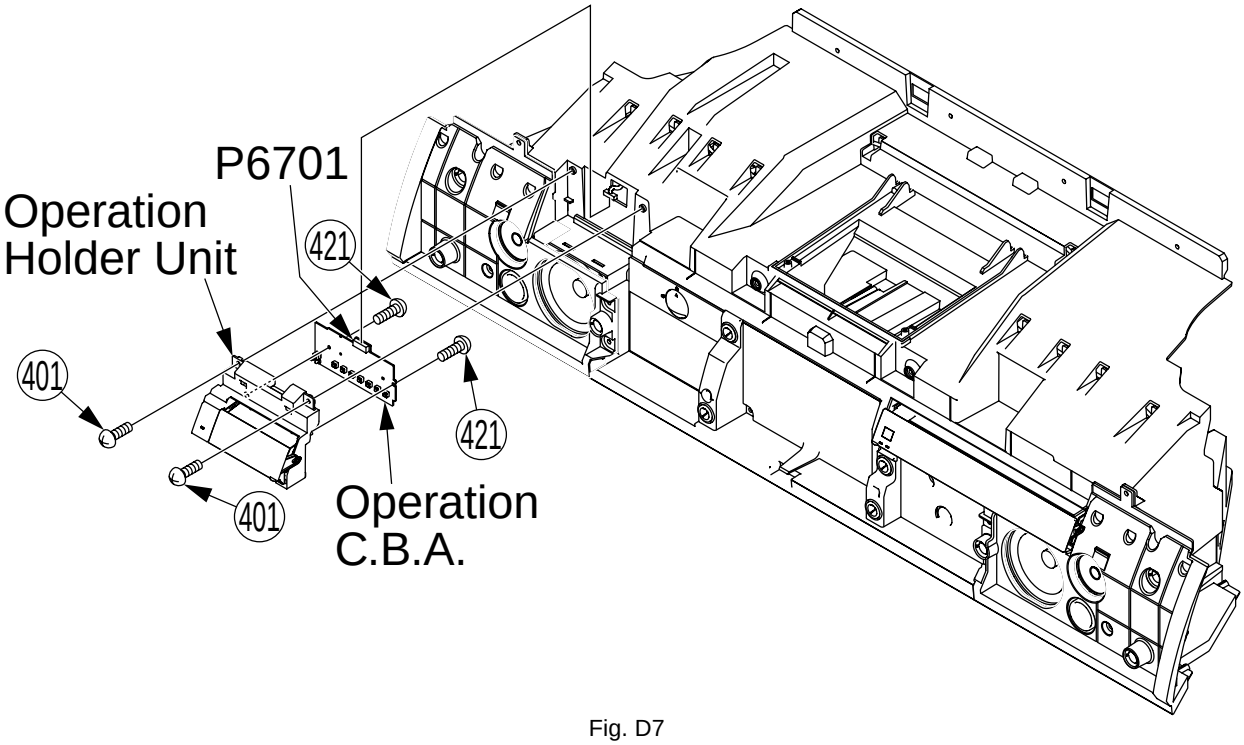


Fig. D7

6 ADJUSTMENT PROCEDURES 1

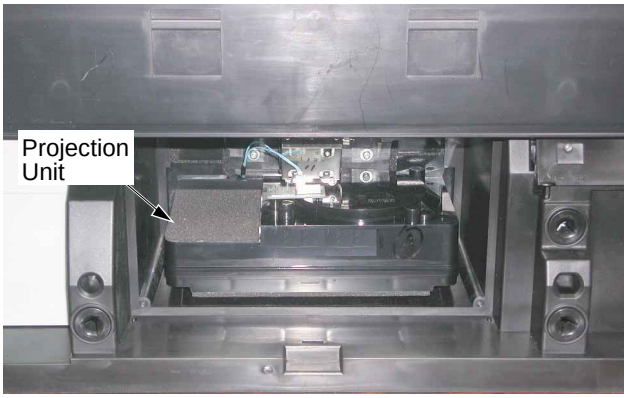
WHEN REINSTALLING THE PROJECTION UNIT OR THE BASE BODY UNIT INTO THE UNIT AT THE USER'S LOCATION:

The following ADJUSTMENT of the Projection Unit must be performed.

a. Mechanical Picture Position Adjustment
b. Focus Adjustment
   Note:
   Perform this adjustment only if necessary. (Normally, it will not be necessary.)
c. Electrical Picture Position Adjustment

Preparation of ADJUSTMENT:

1. Install all parts except the Front Cover Unit and the Optical Cover.

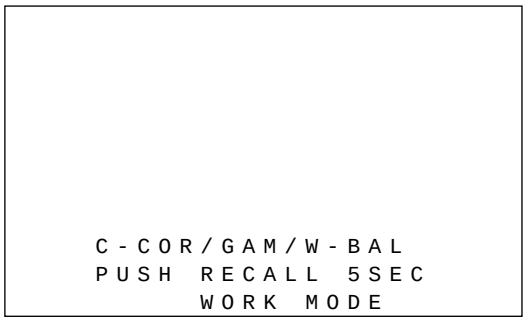


(With Front Cover Unit and Optical Cover removed)
<Front View>

Fig. M1-1

Note:
When the rear cover is disassembled, the screen can be moved back and forth, which could affect the video display vertical position. This could also cause the vertical adjust to be at or near its limit.
Only try the picture position adjustment with the rear cover assembled!

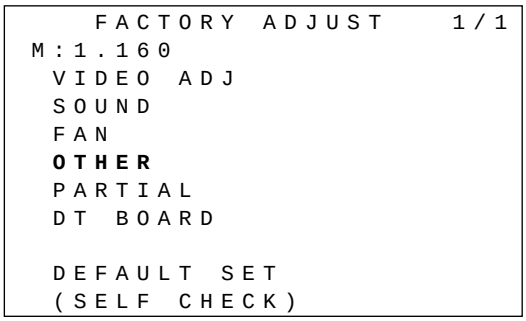
2. Turn the power on.
3. Press and hold the VOLUME DOWN button on the unit and the RECALL key on the remote for more than 5 seconds in power on condition. The unit will go into Work Mode. ("WORK MODE" will appear on the screen.)



<Work Mode>

Fig. M1-2

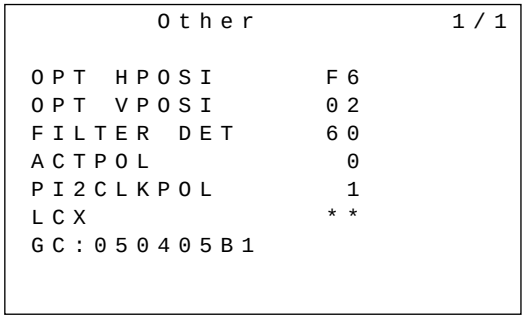
4. 1) Then, press and hold the VOLUME DOWN button on the unit and the SWAP key on the remote for more than 1 second. The unit will go into the Factory Adjust Mode. (FACTORY ADJUST menu will appear.)



<Factory Adjust mode>

Fig. M1-3

2) Then, press the CH UP/DOWN key on the remote to select "OTHER" on menu and press the OK key. (OTHER menu will appear.)



<Factory Adjust Mode>
(OTHER menu 1/1)

Fig. M1-4

5. Press the VOLUME UP/DOWN key on the remote. (Focus screen will appear.)

<Focus Screen>

To release this mode:

1. After completing the ADJUSTMENT, press the CH UP/DOWN key on the remote to return to the OTHER menu.
2. Then, press RECALL key twice to return to Work Mode, and press and hold the VOLUME DOWN button on the unit and the RECALL key on the remote for more than 5 seconds. Alternatively, turn off the power.
3. Then, install the Optical Cover with the 2 Screws and the Front Cover Unit.

a. Mechanical Picture Position Adjustment (Tilt)

1) Loosen the 4 Screws on the Projection Unit.

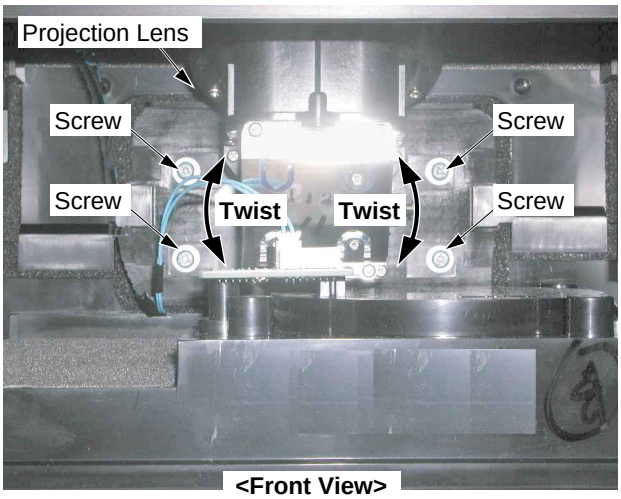
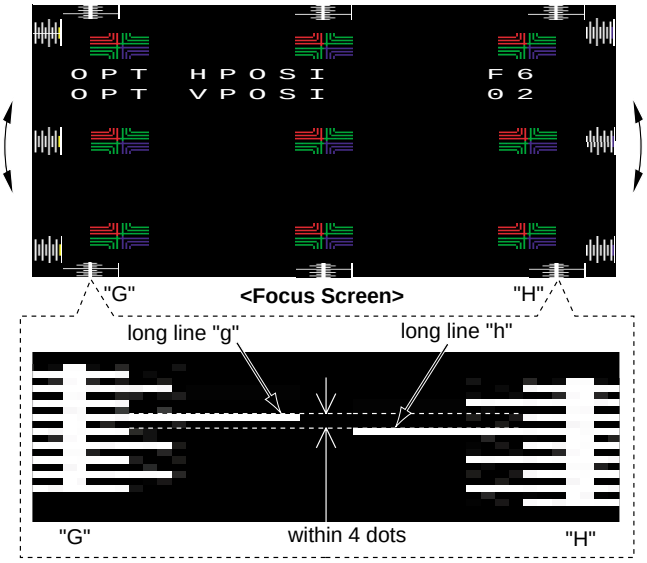


Fig. M1-5

2) Adjust the Projection Lens by twisting so that the long line "g" and the long line "h" are within 4 dots. (The long line "g" and the long line "h" will be almost aligned horizontally.)

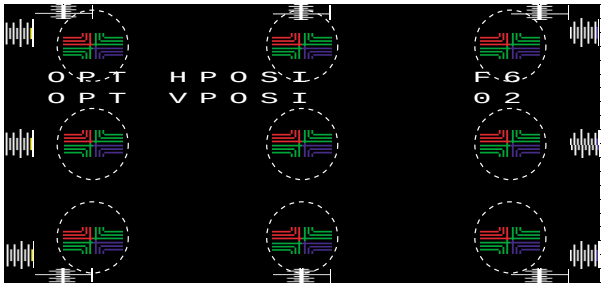


Note:
If the Projection Lens is twisted left, the Focus Screen twists left.
If the Projection Lens is twisted right, the Focus Screen twists right.

3) Tighten the 4 Screws while fixing the Projection Lens.

b. Focus Adjustment

1) Confirm that each of the pixels in the nine portions is clearly visible.



<Focus Screen>

2) If not, loosen the Knob on the Projection Lens using pliers until the Knob can be moved.

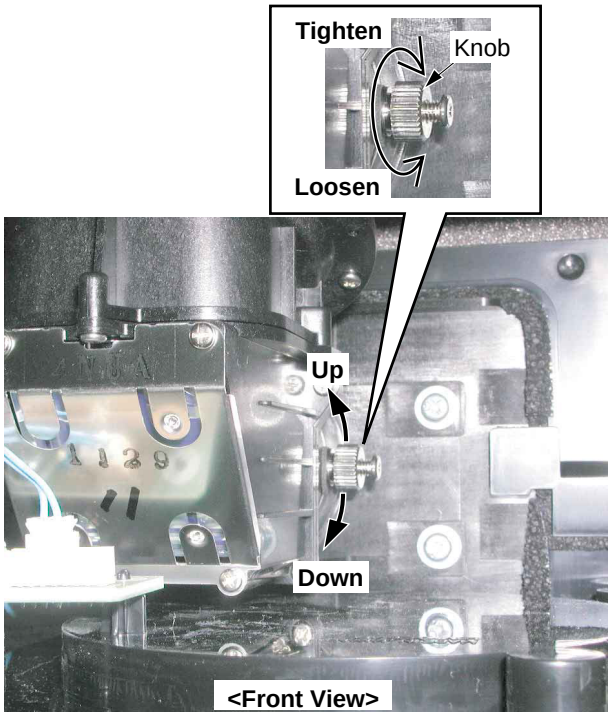


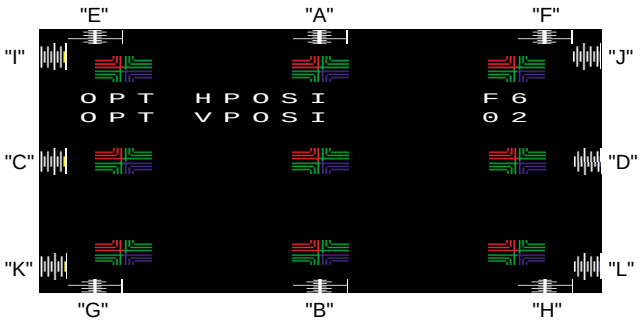
Fig. M1-6

3) Adjust the Knob by moving up or down so that each of the pixels in the nine portions is clearly visible to obtain the best focus.
4) Tighten the Knob using pliers.

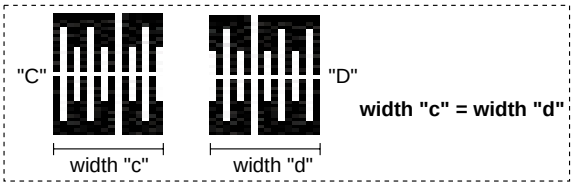
Note:
Focus Adjustment is not normally necessary. Perform this adjustment only if necessary.

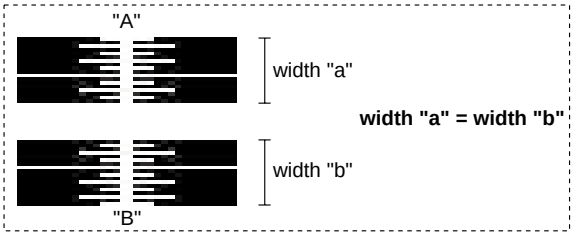
c. Electrical Picture Position Adjustment

1) Adjust OPT HPOSI so that "C" is symmetrical to "D." by pressing the VOLUME UP/DOWN key on the remote to change the value.
2) Press the CH UP/DOWN key on the remote to return to the OTHER menu.
3) Select OPT VPOSI by pressing CH UP/DOWN key on the remote.
4) Adjust OPT VPOSI so that "A" is symmetrical to "B" by pressing the VOLUME UP/DOWN key on the remote to change the value.



<Focus Screen>



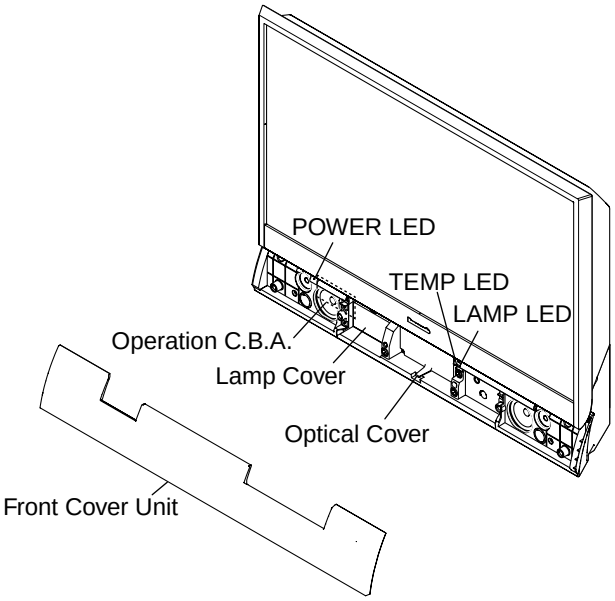


5) Confirm that all "A", "B", "C", "D", "E", "F", "G", "H", "I", "J", "K", "L" are each almost symmetrical.
6) If not, adjust the "OPT HPOSI" and "OPT VPOSI" (repeat steps 1-6) until the picture is in the correct position.
7) Press the CH UP/DOWN key on the remote to return to the OTHER menu.

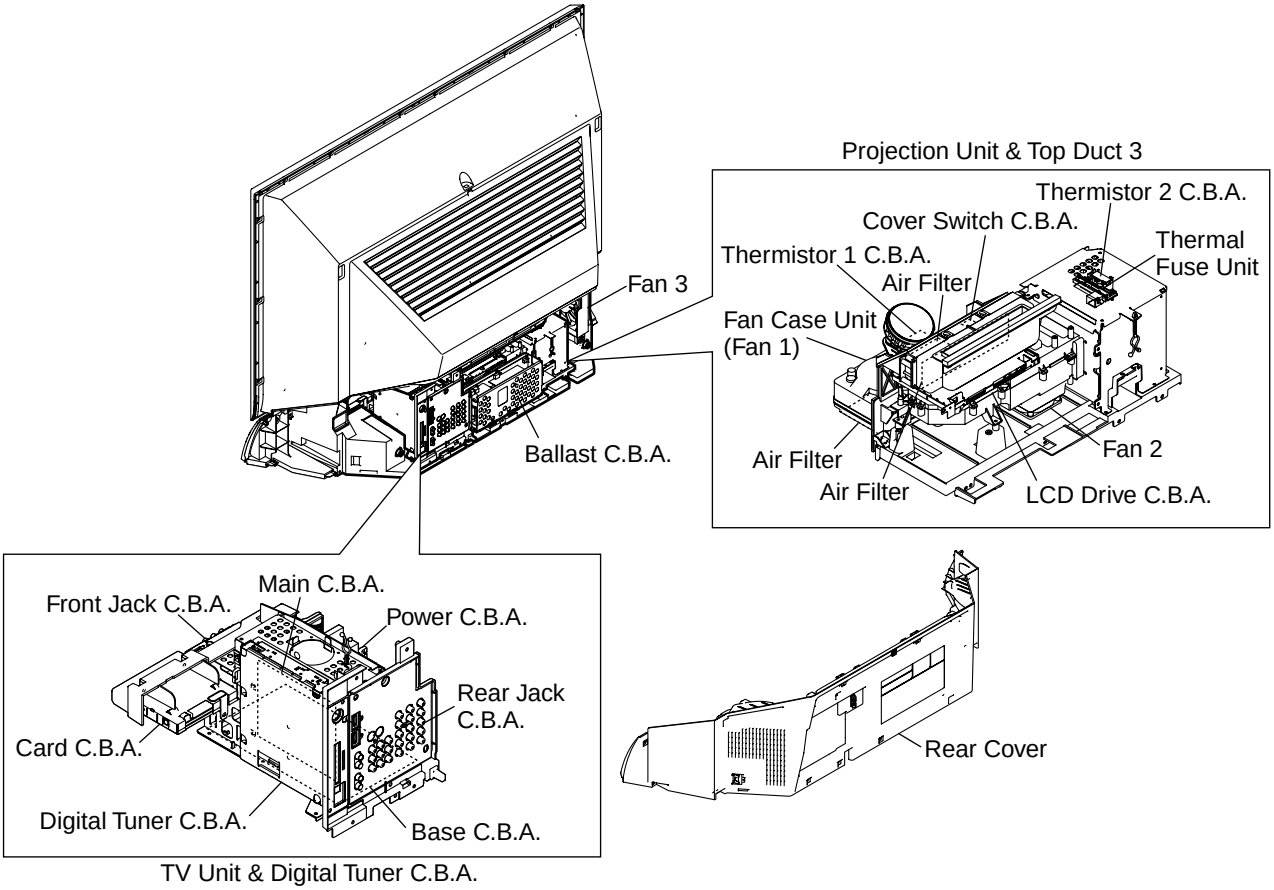
7 TROUBLESHOOTING HINTS FOR BLOCK LEVEL REPAIR

MAIN PARTS LOCATION

<Front View>

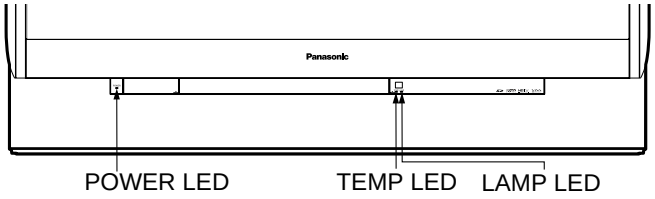


<Rear View>



LED INDICATIONS FOR ERROR CONDITION

Each LED indication facilitates finding the cause of the error.
When an error is detected, the Lamp comes off and the LED on the front will flash.



					(Note 2)	(Note 3)
Error No.	**Error Information**	**POWER LED**	**TEMP LED**	**LAMP LED**	**OSD**	**LAMP OFF**
1)	**Fan1, Fan2 or Fan3 stopped**	flashes orange once every 5 seconds	-	-		○
2)	**Lamp Cover open**	flashes orange twice every 5 seconds	-	-		○
3)	**Temperature Sensor shorted or open (Thermistor 1 C.B.A.)**	-	flashes once every 5 seconds	-		○
4)	**Abnormal Temperature (Thermistor 1 C.B.A.)**	-	flashes twice every 5 seconds	-		○
5)	**Ballast Error (abnormal Lamp or Ballast)**	-	-	flashes once every 5 seconds		○
6)	**Ballast Error (abnormal Lamp voltage)**	-	-	flashes twice every 5 seconds		○
7)	**Ballast Error (abnormal temperature)**	-	-	flashes 3 times every 5 seconds		○
8)	**Ballast Error (other causes)**	-	-	flashes 4 times every 5 seconds		○
9)	**Abnormal Voltage (+17V, +9V, +5V line) for LCD Drive C.B.A.**	flashes orange 7 times every 5 seconds	flashes 3 times every 5 seconds	flashes 3 times every 5 seconds		○
10)	**Temperature Sensor shorted or open (Thermistor 2 C.B.A.)**	-	flashes 3 times every 5 seconds	-		○
11)	**Abnormal Temperature (Thermistor 2 C.B.A.)**	-	flashes 4 times every 5 seconds	-		○
12)	**Clogged air filter**	-	flashes 5 times every 5 seconds	-	○	○

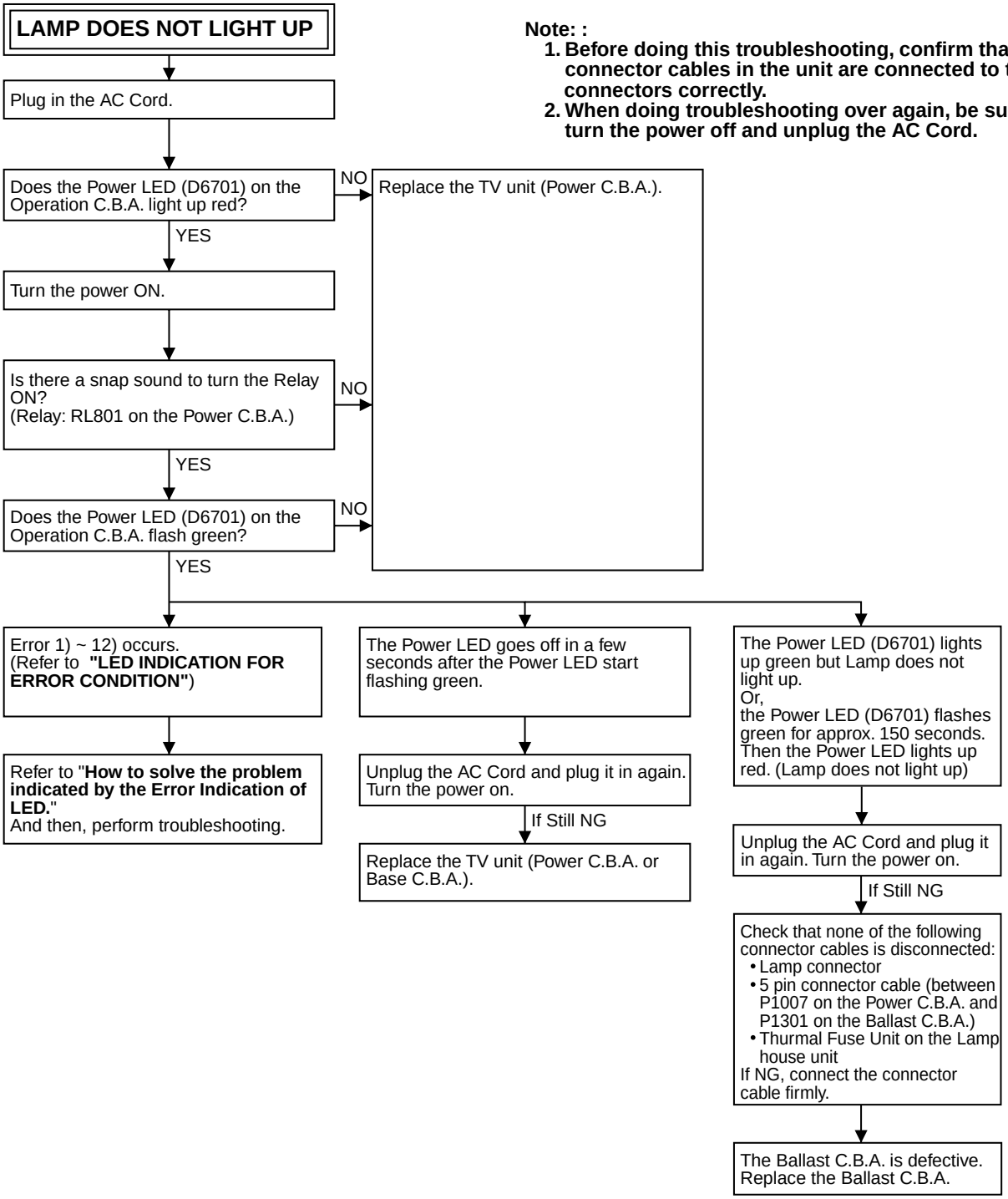
Note:
1. When two or more errors have occurred at the same time, the LED will alternate flash patterns as shown above every 5 seconds.
2. Warning OSD appears when the air filter is clogged.
3. LAMP OFF: The LED will flash immediately after the Lamp comes off.

How to solve the problem indicated by the Error Indication of LED

(All symptom is that Lamp turns off or Lamp does not light up)

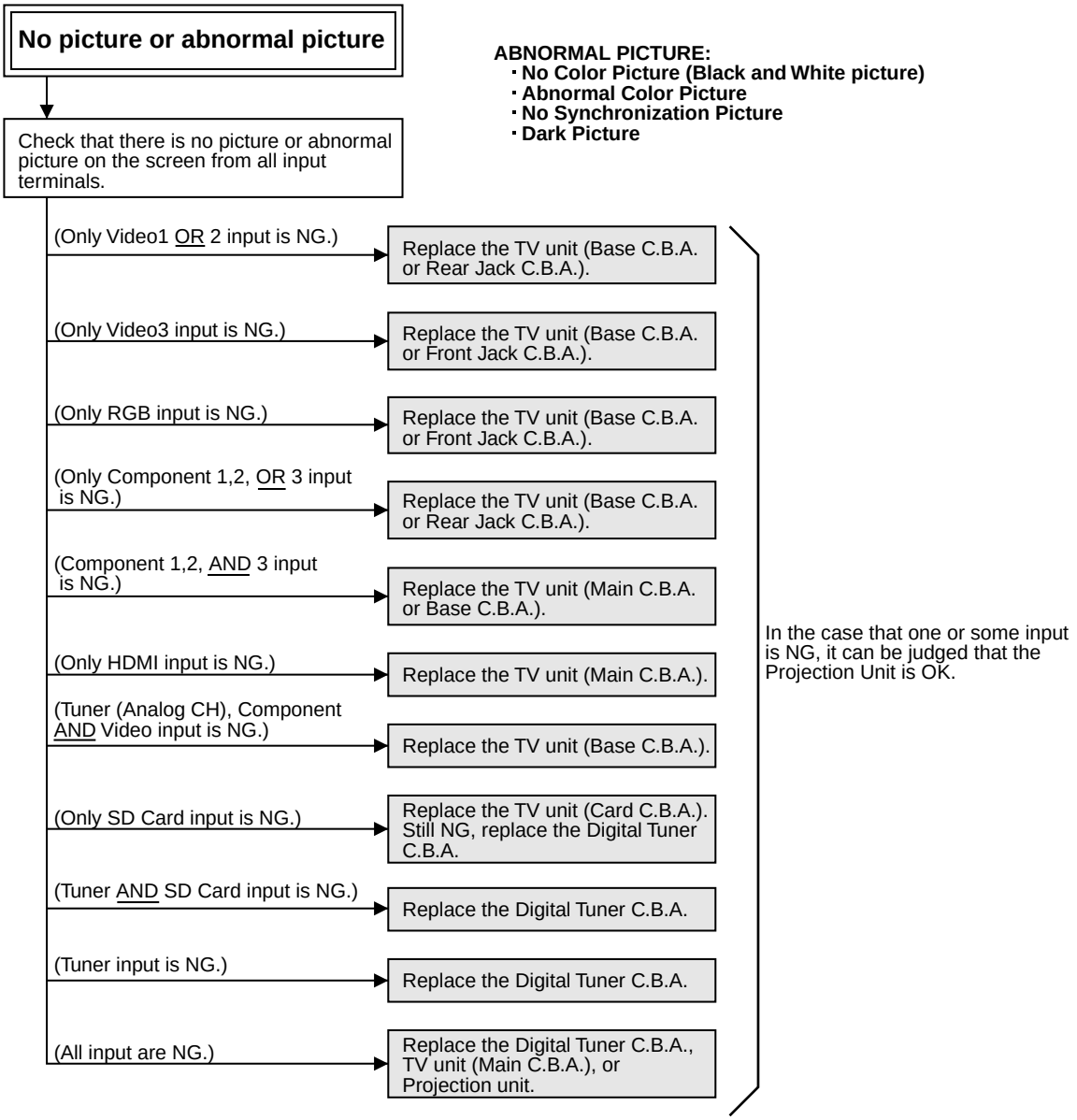
Note: Before performing the troubleshooting, confirm that all connector cables in the unit are connected to connectors correctly.

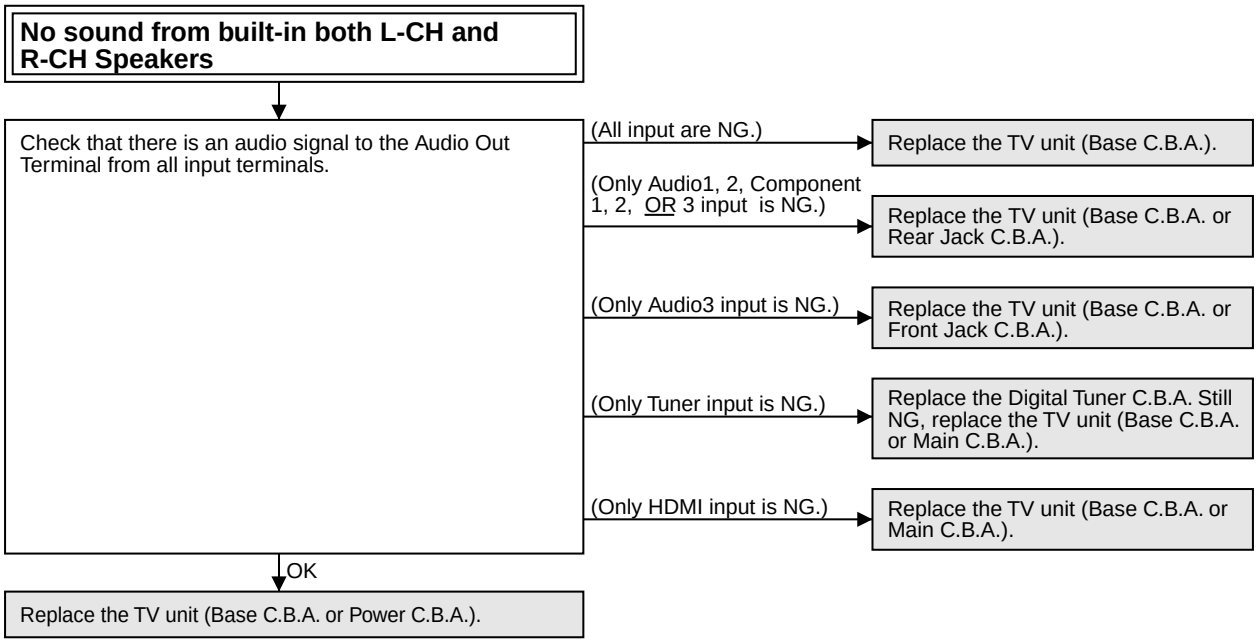
Error No.	Problem	Possible Solution
1)	Cooling Fan (Fan1, Fan2 and/or Fan3) malfunction.	Are the Fan1, Fan2 and Fan3 operating? NO → Replace the TV unit (Power C.B.A. or Base C.B.A.). Still NG, replace the Projection Unit. Only the Fan1 stops. → Replace the Projection Unit. Only the Fan2 stops. → Replace the Projection Unit. Only the Fan3 stops. → Replace the Fan3.
2)	Mis-installed the Lamp Cover (the Lamp cover is open).	1. Tighten the screw of the Lamp Cover. 2. If still NG, replace the Cover SW (SW2911) on the Cover Switch C.B.A. 3. If still NG, replace the TV unit (Main C.B.A.).
3)	The temperature sensor (R2811) on the Thermistor 1 C.B.A. on the Fan 1 is short or open.	Remove P2302 connector on the LCD Drive C.B.A. and check if the resistance between pin1 and pin2 of P2811 on the Thermistor 1 C.B.A. is 5kΩ～200kΩ. If NG, replace the Temperature Sensor (R2811) on the Thermistor 1 C.B.A. Still NG, replace the Projection Unit. Still NG, replace the Main C.B.A. **Note:** The Projection Unit includes LCD Drive C.B.A.
4)	It indicates when the temperature detected by the Temperature Sensor (R2811) on Thermistor 1 C.B.A. exceeds 55 ˚C (131 ˚F). 1. The surrounding temperature of the place of use may be too high. 2. The vents on the rear may be blocked.	1. Relocate the unit to a proper location. • Do not place in direct sunlight and other sources of direct heat. • Do not place the unit in humid or dusty location, or areas exposed to smokeor steam. (surrounding temperature should be between 0 ˚C (32 ˚F) and 40 ˚C (104 ˚F) and humidity should be between 20 % and 80 % (with no condensation).) • The vents are not blocked. It is recommended that a gap of at least 10 cm is left all around the unit even when it is placed inside a cabinet or between shelves. 2. Check if the fans are operating properly.
5)	1. The Lamp is not cooled off. 2. Thermal Fuse Unit (115˚C (239˚F)) is defective (open). 3. The Lamp is defective (crack). 4. The Lamp voltage becomes more over 130V or less than 30V. 5. The Ballast C.B.A. is defective. 6. The Main C.B.A. is defective.	1. Confirm that the Thermal Fuse Unit (115˚C(239˚F)) on the Lamp House is not open. 2. Wait until the Lamp is cooled off and try to turn the power back on. If same error LED indication continues, remove the Lamp and visually inspect it. If it is cracked, it must be replaced. If the Lamp is not cracked, replace the Ballast C.B.A. 3. If still NG, replace the TV unit (Main C.B.A.).
6)	The Lamp is defective (short of the Lamp).	Replace the Lamp.
7)	Thermal fuse (F1302) 117 ˚C (243 ˚F) on the Ballast C.B.A. is open due to abnormal temperature rise.	Replace the Ballast C.B.A.
8)	The Ballast C.B.A. is defective.	If the Lamp does not light up after attempting turning on the power 2 or 3 times, replace the Ballast C.B.A.
9)	1. +17V line on the LCD Drive C.B.A. error. 2. +9V line on the LCD Drive C.B.A. error. 3. +5V line on the LCD Drive C.B.A. error.	1. Replace the TV unit (Power C.B.A. or Base C.B.A.). 2. If still NG, replace the Projection Unit.
10)	The temperature sensor (R2821) on the Thermistor 2 C.B.A. on the Lamp House is short or open.	Remove P2303 connector on the LCD Drive C.B.A. and check if the resistance between pin1 and pin2 of P2821 on the Thermistor 2 C.B.A. is 5kΩ～1MΩ. If NG, replace the Temperature Sensor (R2821) on the Thermistor 2 C.B.A. Still NG, replace the Projection Unit. Still NG, replace the Main C.B.A. **Note:** The Projection Unit includes LCD Drive C.B.A.
11)	It indicates when the temperature detected by the Temperature Sensor (R2821) on Thermistor 2 C.B.A. exceeds 105 ˚C (221 ˚F). 1. The surrounding temperature of the place of use may be too high. 2. The vents on the rear may be blocked.	1. Relocate the unit to a proper location. • Do not place in direct sunlight and other sources of direct heat. • Do not place the unit in humid or dusty location, or areas exposed to smokeor steam. (surrounding temperature should be between 0 ˚C (32 ˚F) and 40 ˚C (104 ˚F) and humidity should be between 20 % and 80 % (with no condensation).) • The vents are not blocked. It is recommended that a gap of at least 10 cm is left all around the unit even when it is placed inside a cabinet or between shelves. 2. Check if the fans are operating properly.
12)	Clogged air filter of the Fan Case Unit.	1. Cleaning the Air Filter on the Projection Unit. 2. If still NG, replace the Projection Unit. 3. If still NG, replace the TV unit (Main C.B.A.).

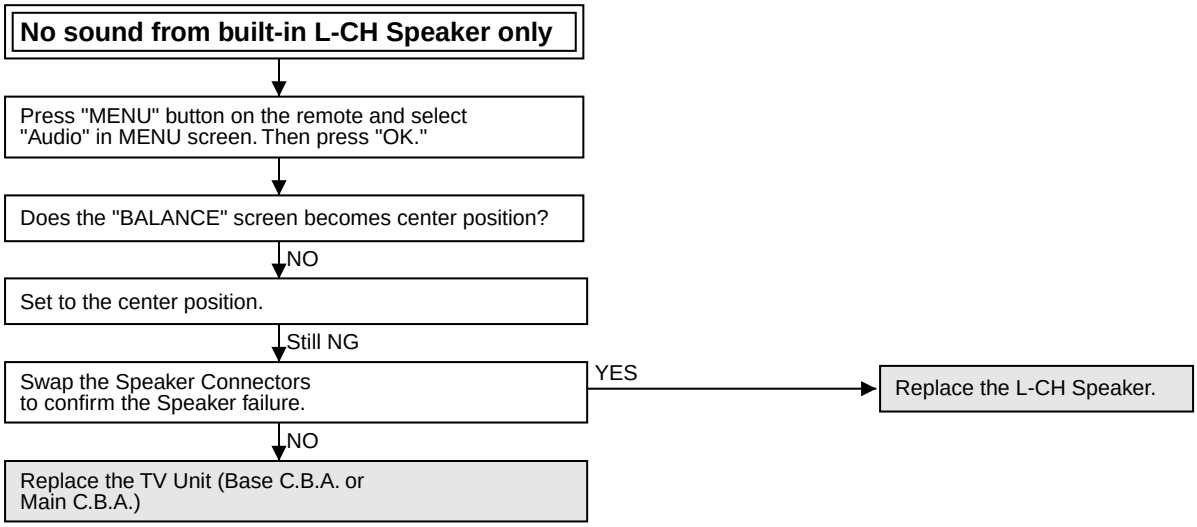

LAMP DOES NOT LIGHT UP
Plug in the AC Cord.
Does the Power LED (D6701) on the Operation C.B.A. light up red?
NO
Replace the TV unit (Power C.B.A.).
YES
Turn the power ON.
Is there a snap sound to turn the Relay ON?
(Relay: RL801 on the Power C.B.A.)
NO
YES
Does the Power LED (D6701) on the Operation C.B.A. flash green?
NO
YES
Error 1) ~ 12) occurs.
(Refer to "LED INDICATION FOR ERROR CONDITION")
Refer to "How to solve the problem indicated by the Error Indication of LED."
And then, perform troubleshooting.
The Power LED goes off in a few seconds after the Power LED start flashing green.
Unplug the AC Cord and plug it in again. Turn the power on.
If Still NG
Replace the TV unit (Power C.B.A. or Base C.B.A.).
The Power LED (D6701) lights up green but Lamp does not light up.
Or,
the Power LED (D6701) flashes green for approx. 150 seconds. Then the Power LED lights up red. (Lamp does not light up)
Unplug the AC Cord and plug it in again. Turn the power on.
If Still NG
Check that none of the following connector cables is disconnected:
• Lamp connector
• 5 pin connector cable (between P1007 on the Power C.B.A. and P1301 on the Ballast C.B.A.)
• Thurmal Fuse Unit on the Lamp house unit
If NG, connect the connector cable firmly.
The Ballast C.B.A. is defective. Replace the Ballast C.B.A.

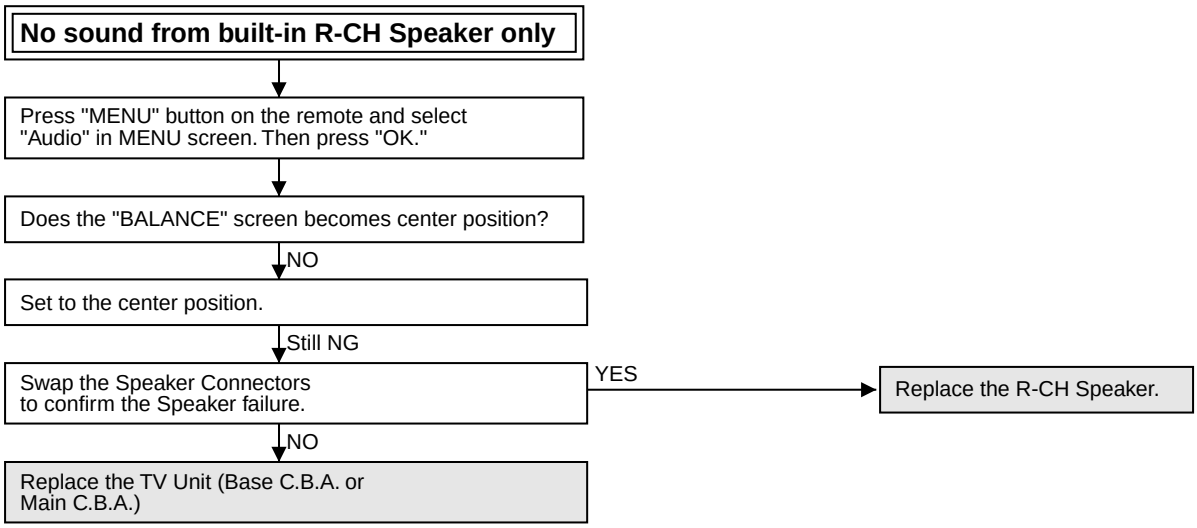
Note: :

1. **Before doing this troubleshooting, confirm that all connector cables in the unit are connected to the connectors correctly.**
2. **When doing troubleshooting over again, be sure to turn the power off and unplug the AC Cord.**


No picture or abnormal picture
ABNORMAL PICTURE:
・No Color Picture (Black and White picture)
・Abnormal Color Picture
・No Synchronization Picture
・Dark Picture
Check that there is no picture or abnormal picture on the screen from all input terminals.
(Only Video1 OR 2 input is NG.)
Replace the TV unit (Base C.B.A. or Rear Jack C.B.A.).
(Only Video3 input is NG.)
Replace the TV unit (Base C.B.A. or Front Jack C.B.A.).
(Only RGB input is NG.)
Replace the TV unit (Base C.B.A. or Front Jack C.B.A.).
(Only Component 1,2, OR 3 input is NG.)
Replace the TV unit (Base C.B.A. or Rear Jack C.B.A.).
(Component 1,2, AND 3 input is NG.)
Replace the TV unit (Main C.B.A. or Base C.B.A.).
(Only HDMI input is NG.)
Replace the TV unit (Main C.B.A.).
(Tuner (Analog CH), Component AND Video input is NG.)
Replace the TV unit (Base C.B.A.).
(Only SD Card input is NG.)
Replace the TV unit (Card C.B.A.). Still NG, replace the Digital Tuner C.B.A.
(Tuner AND SD Card input is NG.)
Replace the Digital Tuner C.B.A.
(Tuner input is NG.)
Replace the Digital Tuner C.B.A.
(All input are NG.)
Replace the Digital Tuner C.B.A., TV unit (Main C.B.A.), or Projection unit.
In the case that one or some input is NG, it can be judged that the Projection Unit is OK.

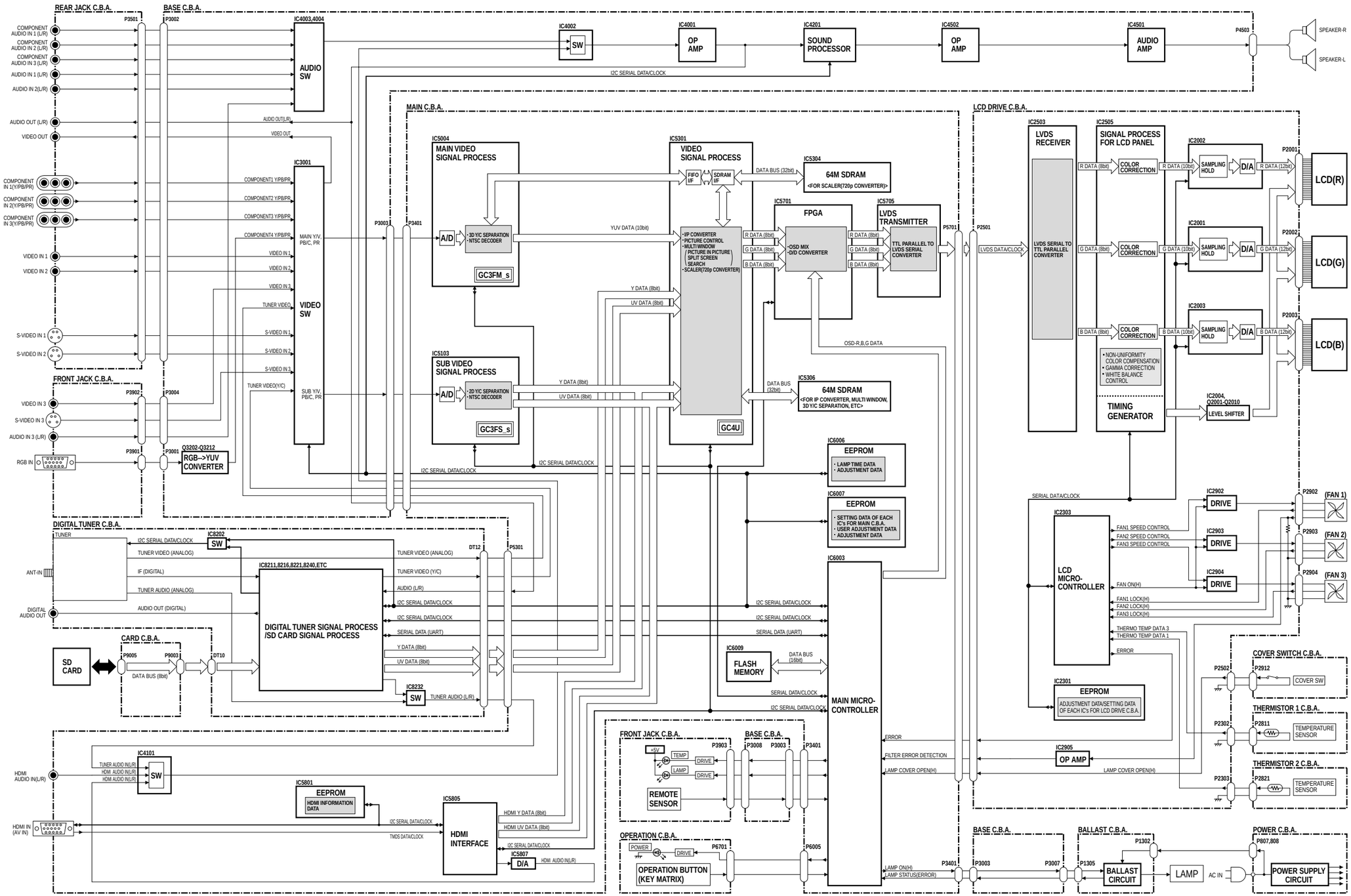

No sound from built-in both L-CH and R-CH Speakers
Check that there is an audio signal to the Audio Out Terminal from all input terminals.
(All input are NG.)
Replace the TV unit (Base C.B.A.).
(Only Audio1, 2, Component 1, 2, OR 3 input is NG.)
Replace the TV unit (Base C.B.A. or Rear Jack C.B.A.).
(Only Audio3 input is NG.)
Replace the TV unit (Base C.B.A. or Front Jack C.B.A.).
(Only Tuner input is NG.)
Replace the Digital Tuner C.B.A. Still NG, replace the TV unit (Base C.B.A. or Main C.B.A.).
(Only HDMI input is NG.)
Replace the TV unit (Base C.B.A. or Main C.B.A.).
OK
Replace the TV unit (Base C.B.A. or Power C.B.A.).


No sound from built-in L-CH Speaker only
Press "MENU" button on the remote and select "Audio" in MENU screen. Then press "OK."
Does the "BALANCE" screen becomes center position?
NO
Set to the center position.
Still NG
Swap the Speaker Connectors to confirm the Speaker failure.
YES
Replace the L-CH Speaker.
NO
Replace the TV Unit (Base C.B.A. or Main C.B.A.)


No sound from built-in R-CH Speaker only
Press "MENU" button on the remote and select "Audio" in MENU screen. Then press "OK."
Does the "BALANCE" screen becomes center position?
NO
Set to the center position.
Still NG
Swap the Speaker Connectors to confirm the Speaker failure.
YES
Replace the R-CH Speaker.
NO
Replace the TV Unit (Base C.B.A. or Main C.B.A.)

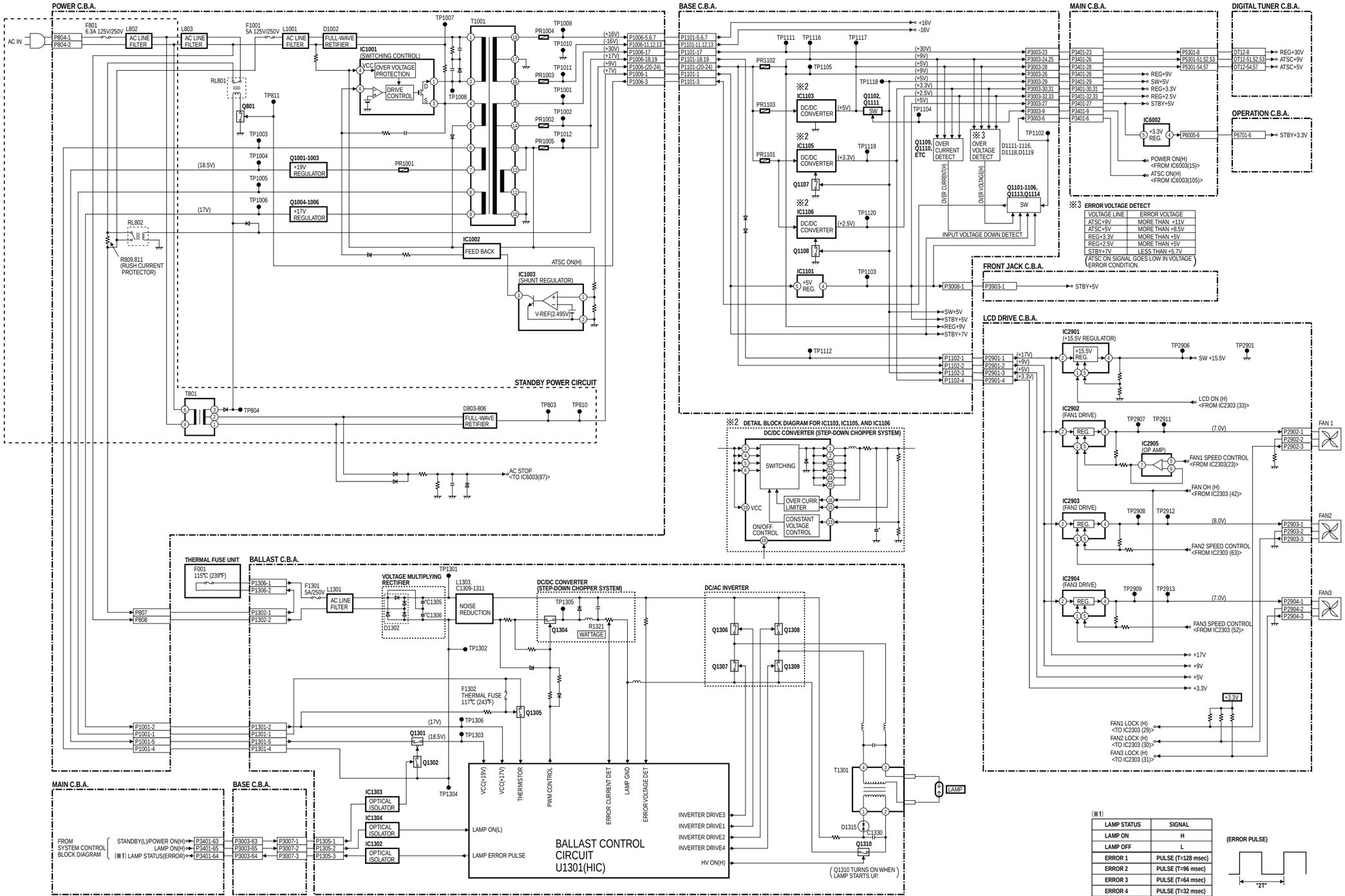
8 BLOCK DIAGRAMS

OVERALL BLOCK DIAGRAM



OVERALL BLOCK DIAGRAM
PT-44LCX65/PT-52LCX65/PT-61LCX65

POWER SUPPLY BLOCK DIAGRAM



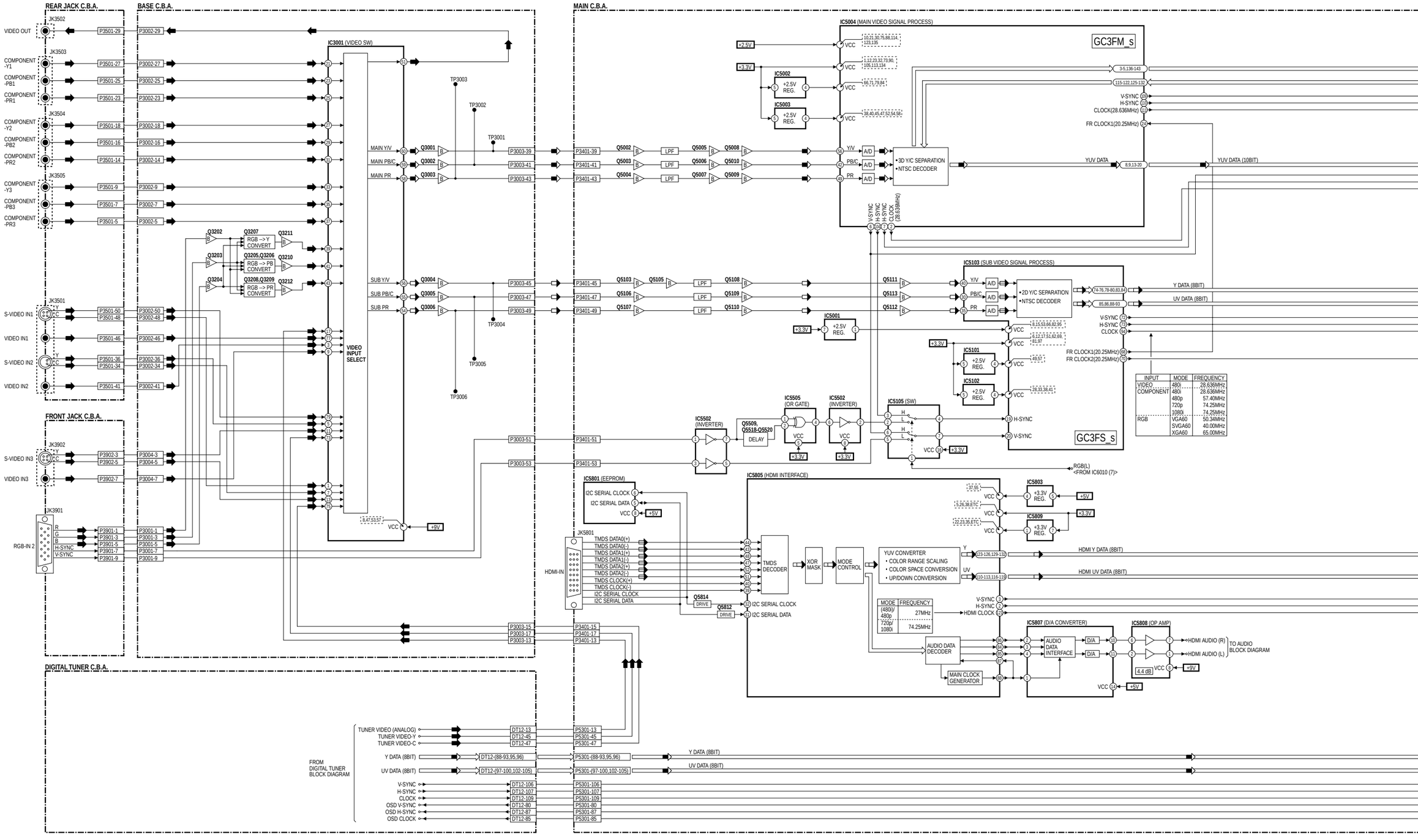
(※1)

LAMP STATUS	SIGNAL
LAMP ON	H
LAMP OFF	L
ERROR 1	PULSE (T=128 msec)
ERROR 2	PULSE (T=96 msec)
ERROR 3	PULSE (T=64 msec)
ERROR 4	PULSE (T=32 msec)

(ERROR PULSE)

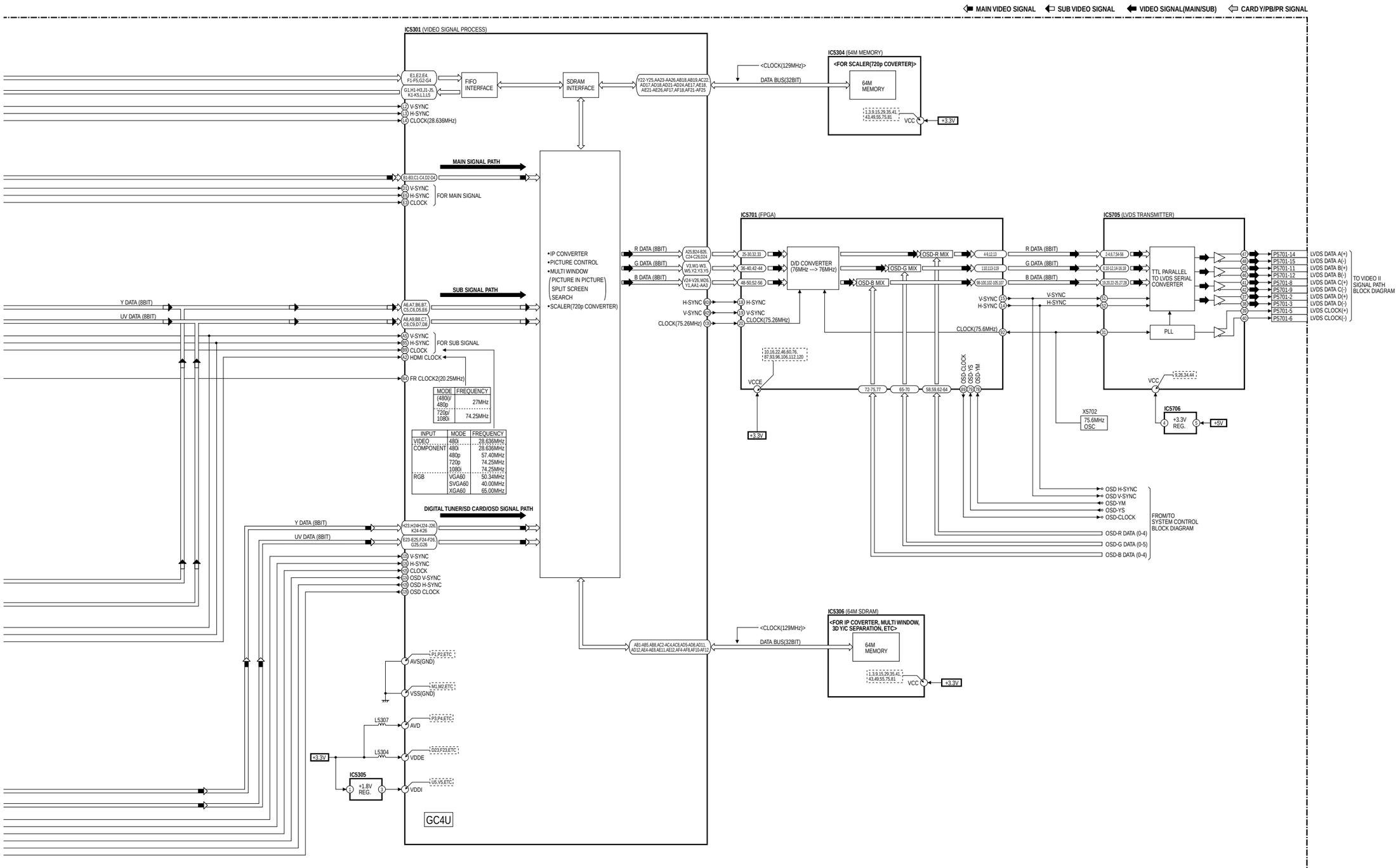
POWER SUPPLY BLOCK DIAGRAM
PT-44LCX65/PT-52LCX65/PT-61LCX65

VIDEO SIGNAL PATH I BLOCK DIAGRAM (1/2)



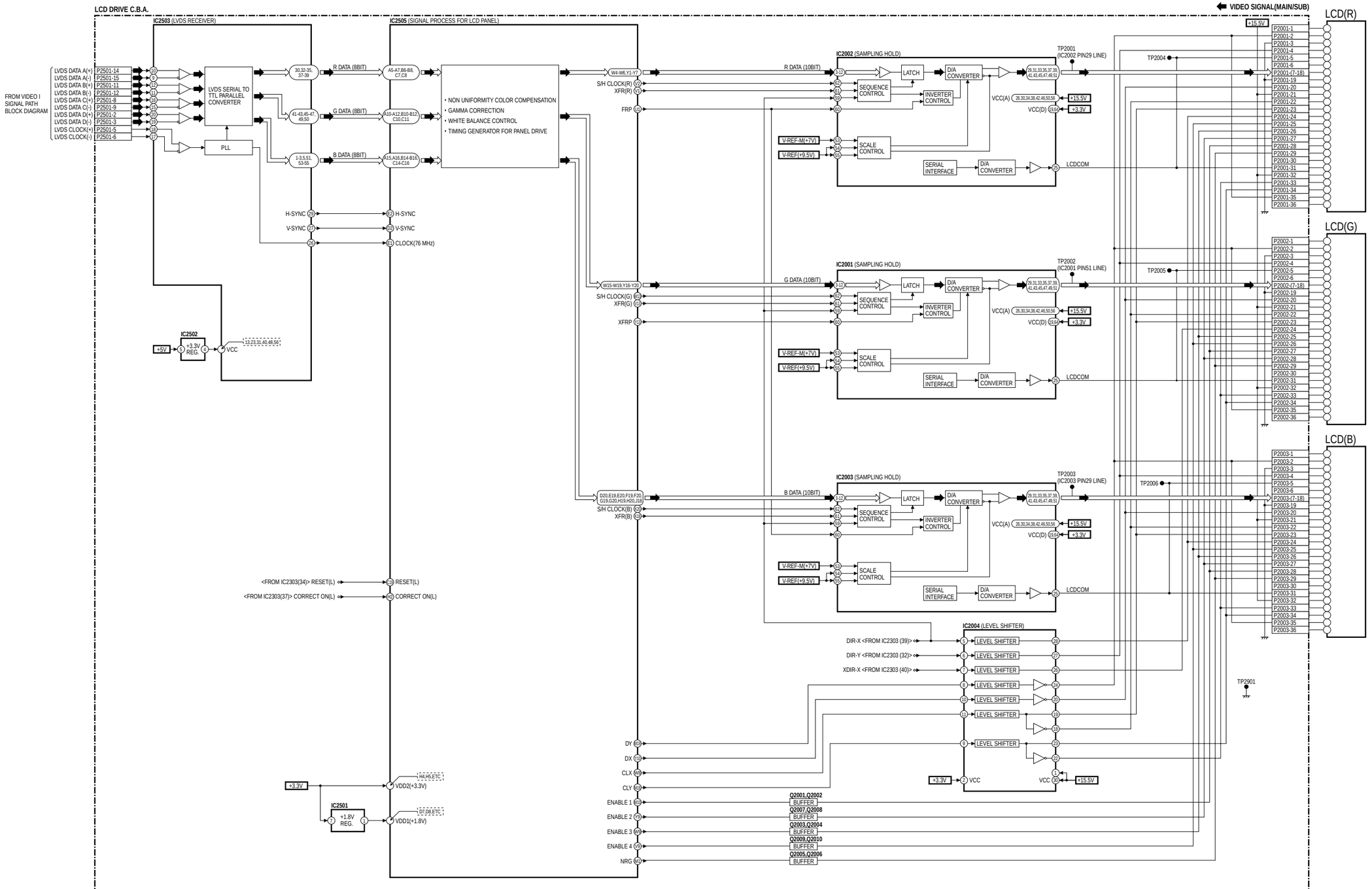
VIDEO SIGNAL PATH I BLOCK DIAGRAM (1/2)
PT-44LCX65/PT-52LCX65/PT-61LCX65

VIDEO SIGNAL PATH I BLOCK DIAGRAM (2/2)



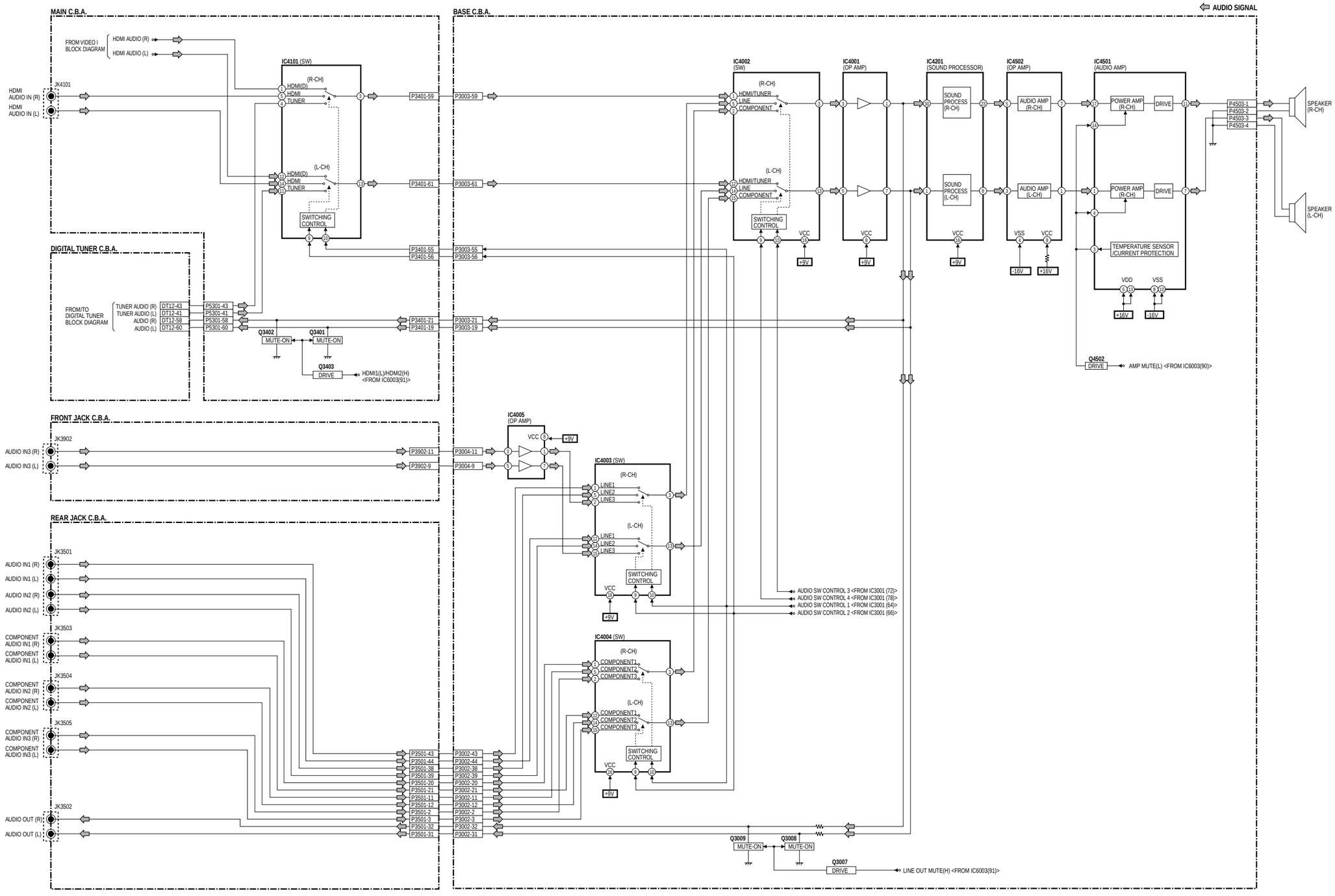
VIDEO SIGNAL PATH I BLOCK DIAGRAM (2/2)
PT-44LCX65/PT-52LCX65/PT-61LCX65

VIDEO SIGNAL PATH II BLOCK DIAGRAM



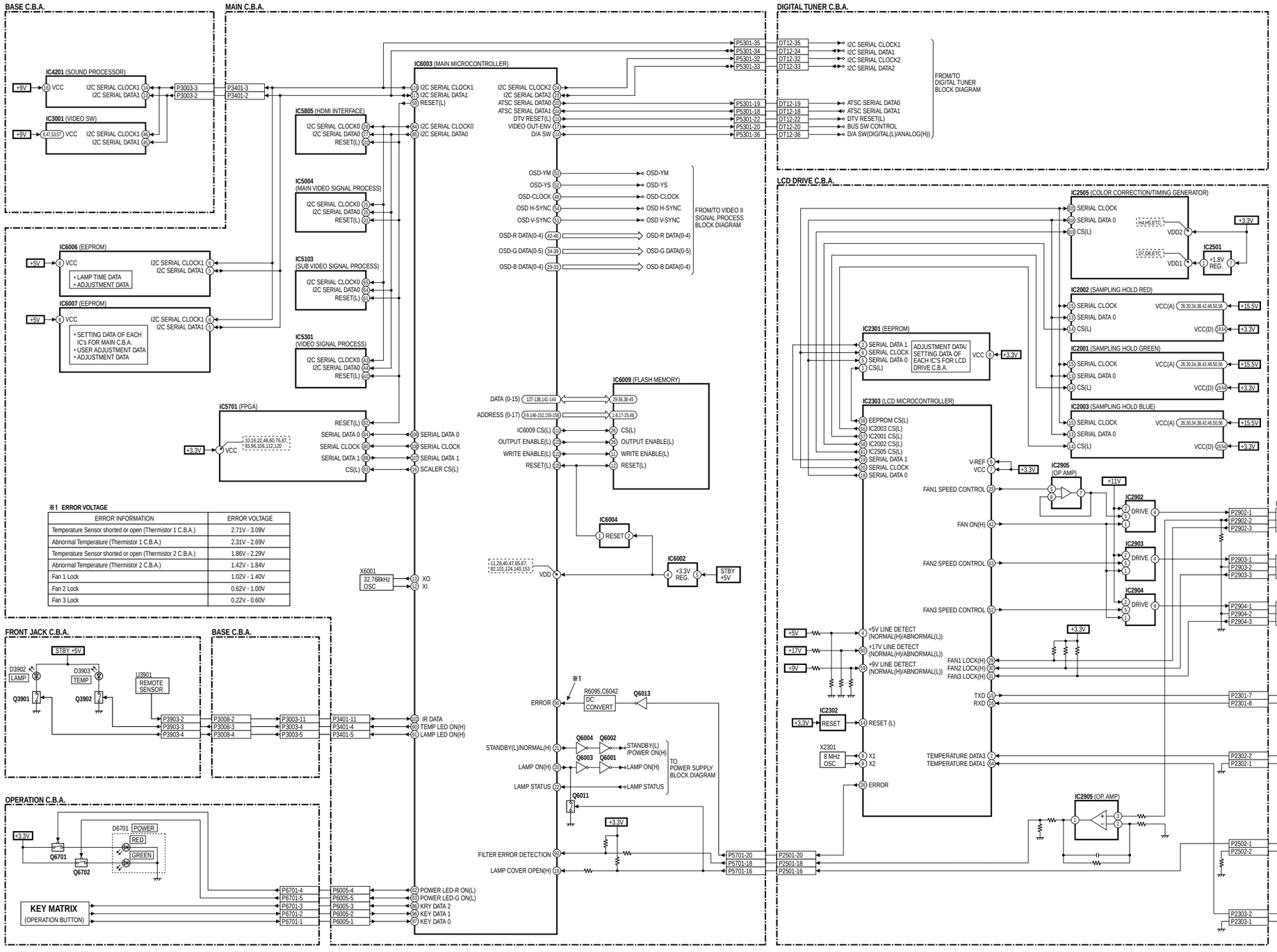
VIDEO SIGNAL PATH II BLOCK DIAGRAM
PT-44LCX65/PT-52LCX65/PT-61LCX65

AUDIO SIGNAL PATH BLOCK DIAGRAM



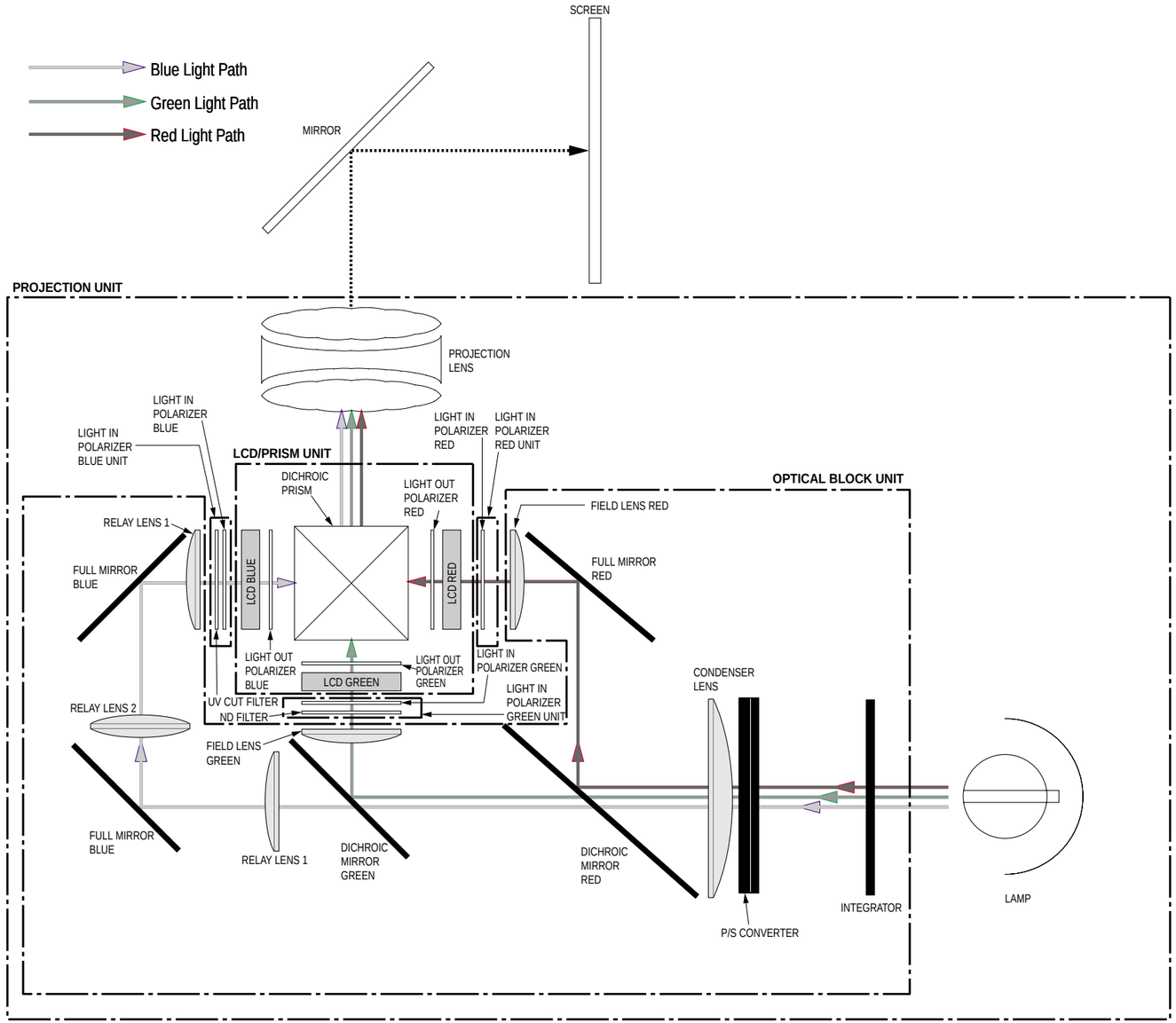
AUDIO SIGNAL PATH BLOCK DIAGRAM
PT-44LCX65/PT-52LCX65/PT-61LCX65

SYSTEM CONTROL BLOCK DIAGRAM



SYSTEM CONTROL BLOCK DIAGRAM
PT-44LCX65/PT-52LCX65/PT-61LCX65

OPTICAL BLOCK DIAGRAM



OPTICAL BLOCK DIAGRAM
PT-44LCX65/PT-52LCX65/PT-61LCX65

9 SCHEMATIC DIAGRAMS

9.1. SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES

1. **Important safety notice**
   Components identified by the sign ⚠ have special characteristics important for safety. When replacing any of these components. Use only the specified parts.

2. Do not use the part number shown on this drawing for ordering.
   The correct part number and part value is shown in the parts list, and may be slightly different or amended since this drawing was prepared.

3. Use only original replacement parts:
   To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.

4. Parts different in shape or size may be used.
   However, only interchangeable parts will be supplied as service replacement parts.

5. Test point information
   ● : Test point with a jumper wire across a hole in P.C.B.
   ○ : Test point with no test pin.

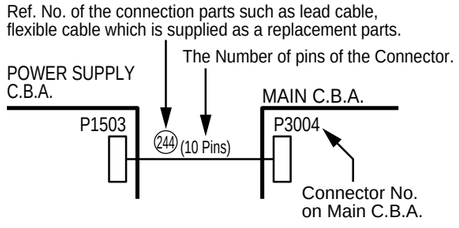
Schematic Diagram Notes

1. Indication for Zener Voltage of Zener Diodes
   The Zener Voltage of Zener Diodes are indicated as such on Schematic Diagrams.

   Example:
   (6.2V).....Zener Voltage

2. How to identify Connectors
   Each connector is labeled with a Connector No. and Pin No. Indicating what it is connected to,
   in other words, its counter part.
   Use the interconnection schematic diagram to find the connection between associated connectors.

   Example:
   The connections between C.B.A.s are shown below.


Ref. No. of the connection parts such as lead cable, flexible cable which is supplied as a replacement parts.
The Number of pins of the Connector.
POWER SUPPLY C.B.A.
MAIN C.B.A.
P1503
(244) (10 Pins)
P3004
Connector No. on Main C.B.A.

3. Parts marked "PT" are not used in any models included in this service model.

Example: C6011 100P PT | C6011 PT | R6097 PT

4. Jumper wires are used for WA10, WA5 etc and these are not supplied as replacement parts.

Circuit Board Layout Note

Circuit Board Layout shows components installed for various models.
For proper parts content for the model you are servicing, please refer to the schematic diagram and parts list.

NOTE:
Circuit Board Layout includes components which are not used.

9.2. INTERCONNECTION SCHEMATIC DIAGRAM

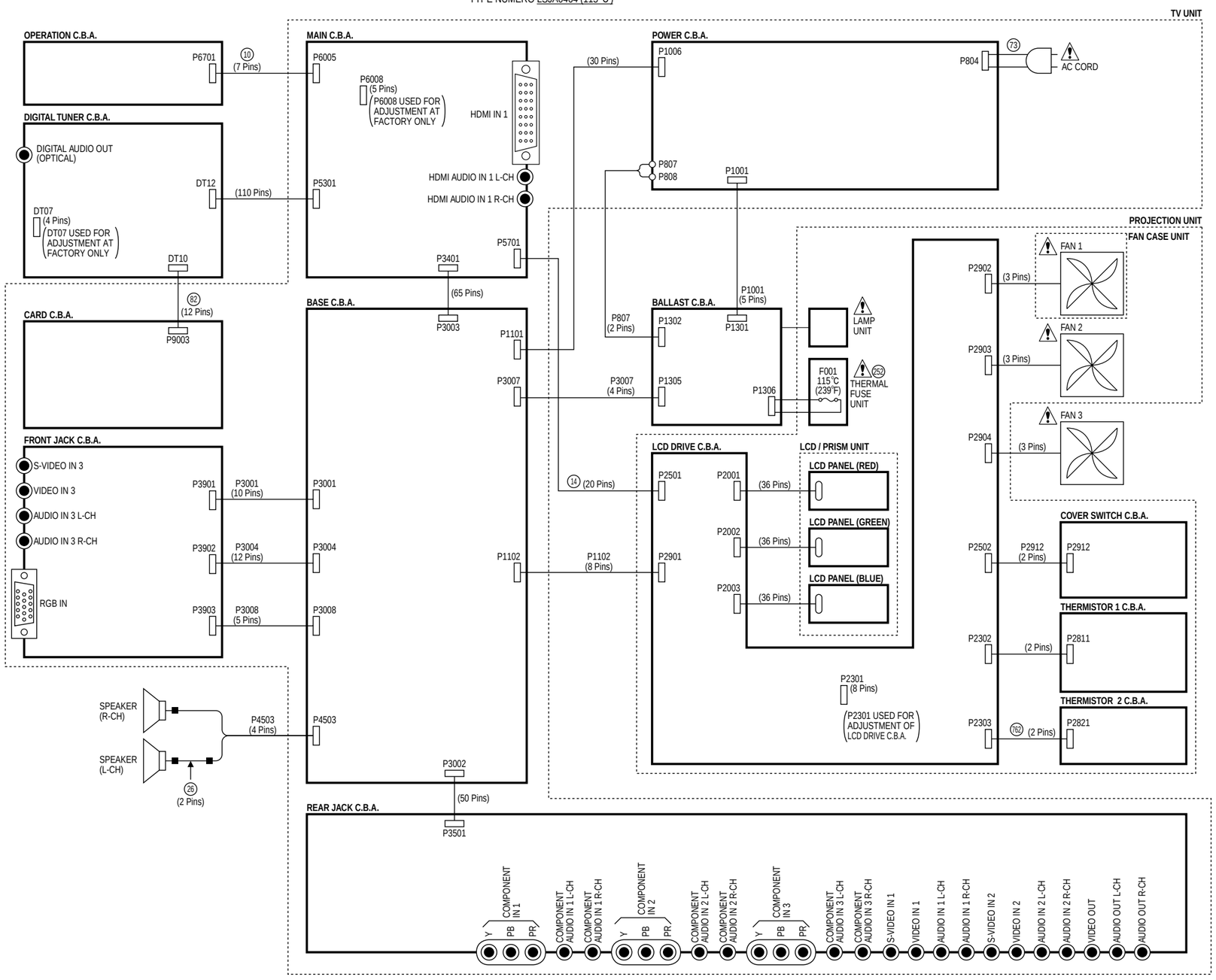
INTERCONNECTION SCHEMATIC DIAGRAM

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

THERMAL FUSE UNIT REPLACEMENT NOTE:
CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE NUMBER LSJA0464 (115 ℃).
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES D' INCENDIE N' UTILISERQUE DES FUSIBLE DE MÉME TYPE NUMÉRO LSJA0464 (115 ℃)

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:
THE LAMP UNIT IS NOT SUPPLIED AS A REPLACEMENT PART. WHEN REPLACING, REPLACE THE LAMP UNIT WHICH IS SUPPLIED AS A OPTIONAL ACCESSORY.



INTERCONNECTION SCHEMATIC DIAGRAM
PT-44LCX65/PT-52LCX65/PT-61LCX65

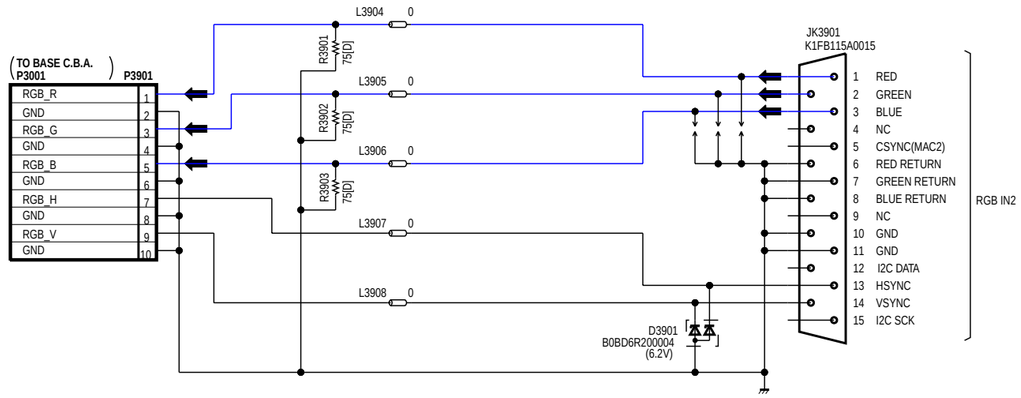
9.3. FRONT JACK SCHEMATIC DIAGRAM

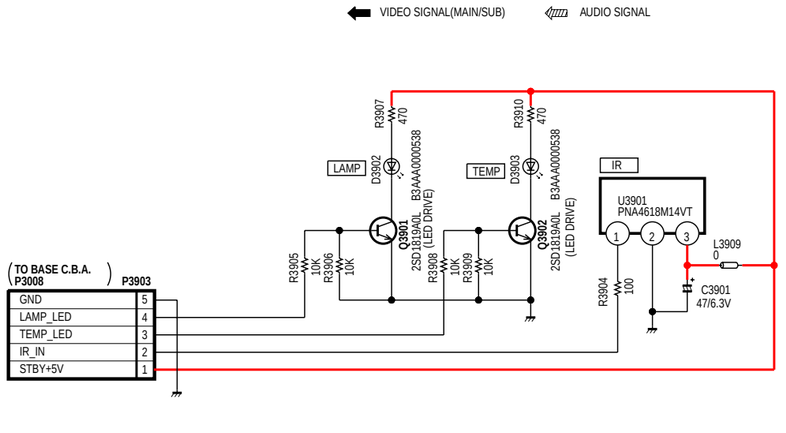
FRONT JACK SCHEMATIC DIAGRAM

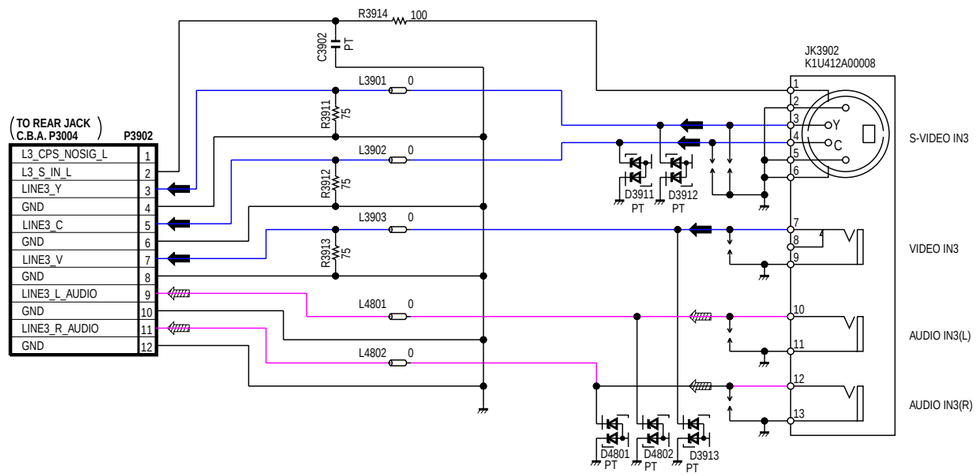
NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts list.
Do not use the part number on this diagram.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:
PARTS MARKED "PT" ARE NOT USED.







LINK TO VOLTAGE CHART

LSJB3155
FRONT JACK SCHEMATIC DIAGRAM
PT-44LCX65/PT-52LCX65/PT-61LCX65

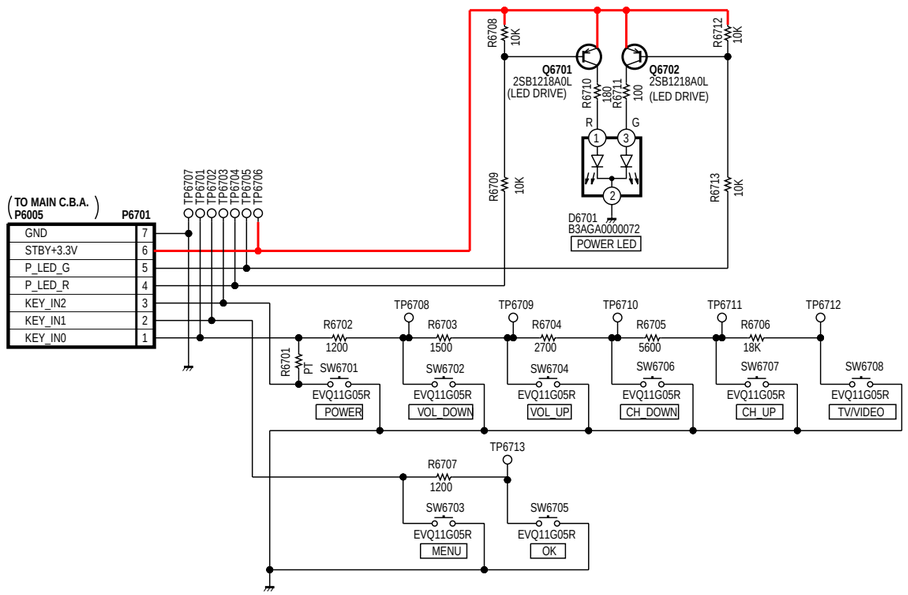
9.4. OPERATION / THERMISTOR 1 / THERMISTOR 2 / COVER SWITCH SCHEMATIC DIAGRAMS

NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts list.
Do not use the part number on this diagram.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

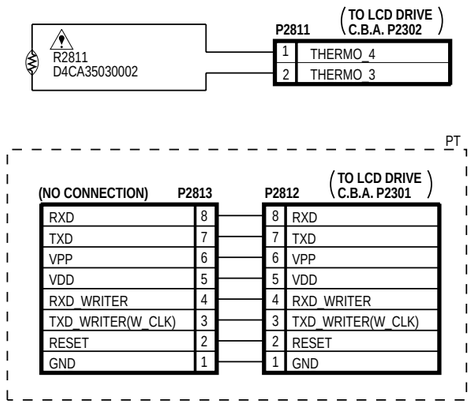
NOTE:
PARTS MARKED "PT" ARE NOT USED.

OPERATION SCHEMATIC DIAGRAM



LSJB3156

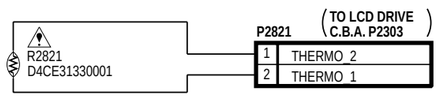
THERMISTOR 1 SCHEMATIC DIAGRAM



IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,
USE ONLY THE SPECIFIED PARTS.

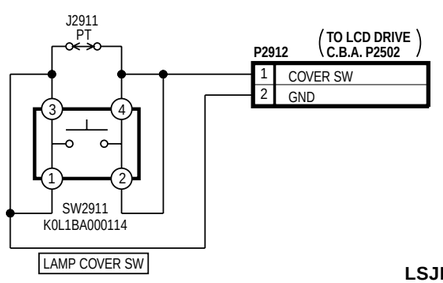
LSJB3166

THERMISTOR 2 SCHEMATIC DIAGRAM



LSJB3137

COVER SWITCH SCHEMATIC DIAGRAM



LSJB3160

LINK TO VOLTAGE CHART

OPERATION SCHEMATIC DIAGRAM
COVER SWITCH SCHEMATIC DIAGRAM
THERMISTOR 1 SCHEMATIC DIAGRAM
THERMISTOR 2 SCHEMATIC DIAGRAM
PT-44LCX65/PT-52LCX65/PT-61LCX65

9.5. VOLTAGE CHART

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

OPERATIONC.B.A.

PIN NO.	VOLTAGE
Q6701	
E	3.3
C	0
B	3.3
Q6702	
E	3.3
C	3.2
B	2.6
TP6701	3.3
TP6702	3.3
TP6703	3.3
TP6704	3.3
TP6705	0.3
TP6706	3.3
TP6707	0
TP6708	3.3
TP6709	3.3
TP6710	3.3
TP6711	3.3
TP6712	3.3
TP6713	3.3

FRONT JACK C.B.A.

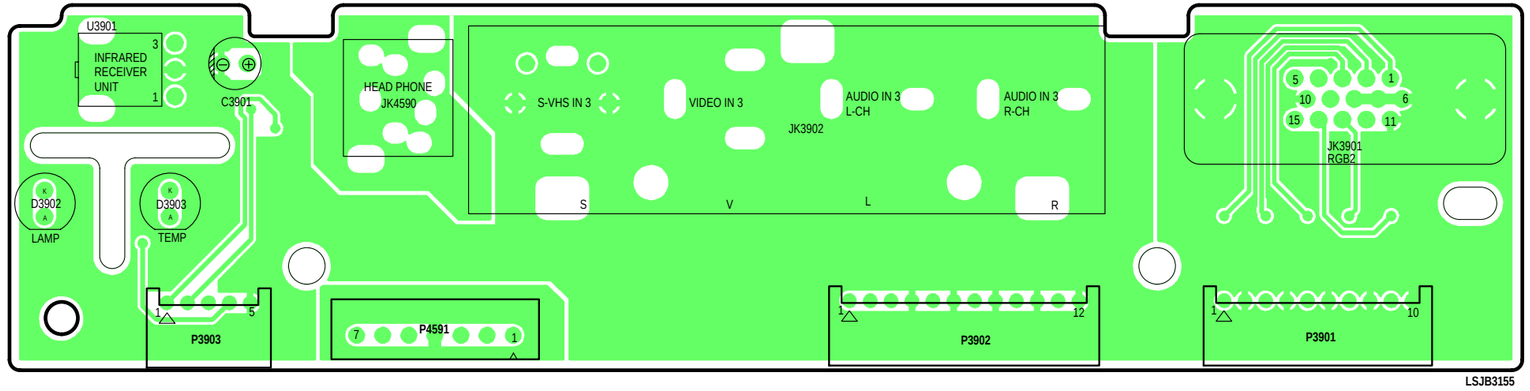
PIN NO.	VOLTAGE
Q3901	
E	0
C	4.1
B	0
Q3902	
E	0
C	4.1
B	0

10 CIRCUIT BOARD LAYOUT

10.1. FRONT JACK C.B.A.

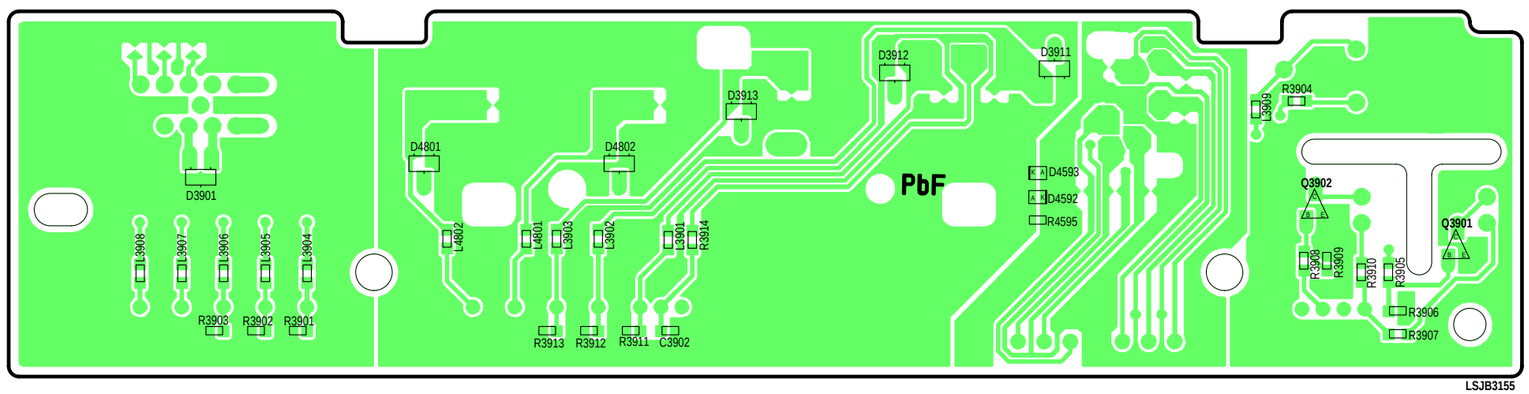
FRONT JACK C.B.A. LSEP3155A

(COMPONENT SIDE)



(DUAL PATTERNS)

(FOIL SIDE)



(DUAL PATTERNS)

NOTE:
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST FOR PROPER PARTS CONTENT.

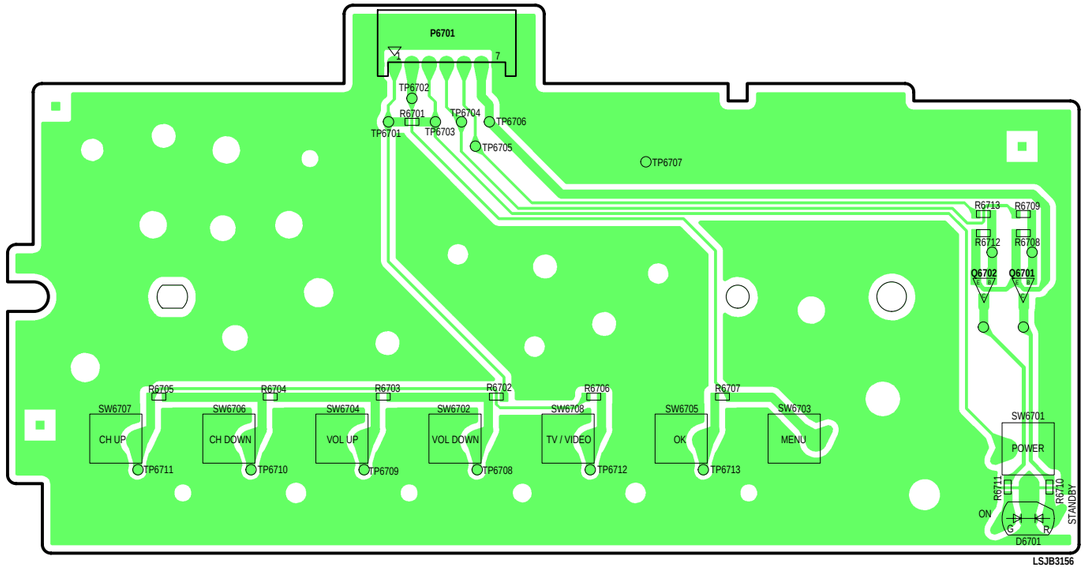
NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

10.2. OPERATION C.B.A. / THERMISTOR 1 C.B.A. / THERMISTOR 2 C.B.A. / COVER SWITCH C.B.A.

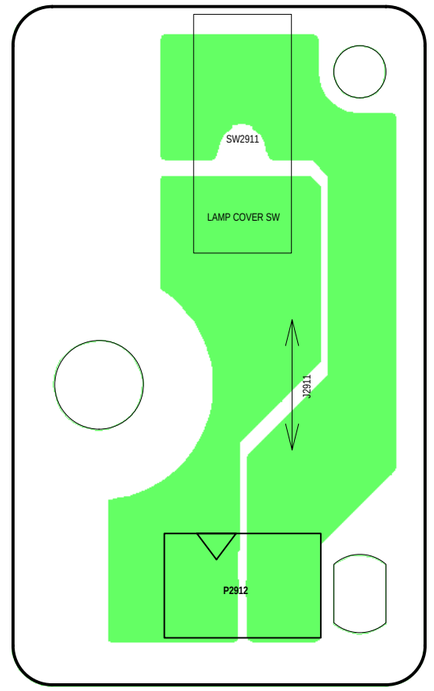
NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST FOR PROPER PARTS CONTENT.

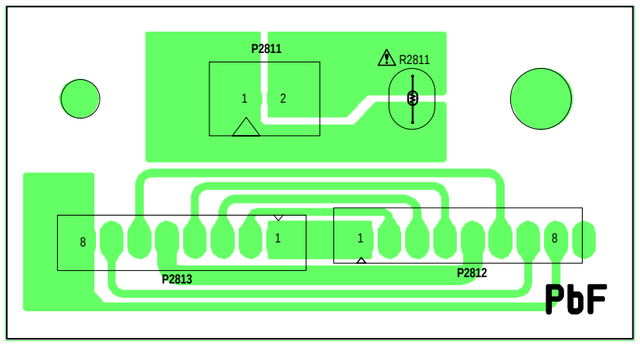
OPERATION C.B.A. LSEP3156A



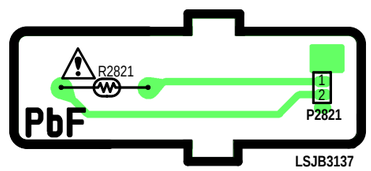
COVER SWITCH C.B.A. LSEP3160A



THERMISTOR 1 C.B.A. LSEP3166A



THERMISTOR 2 C.B.A. LSEB3137A



IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

OPERATION C.B.A. LSEP3156A
THERMISTOR 1 C.B.A. LSEP3166A
THERMISTOR 2 C.B.A. LSEB3137A
COVER SWITCH C.B.A. LSEP3160A

PT-44LCX65/PT-52LCX65/PT-61LCX65

11 EXPLODED VIEWS

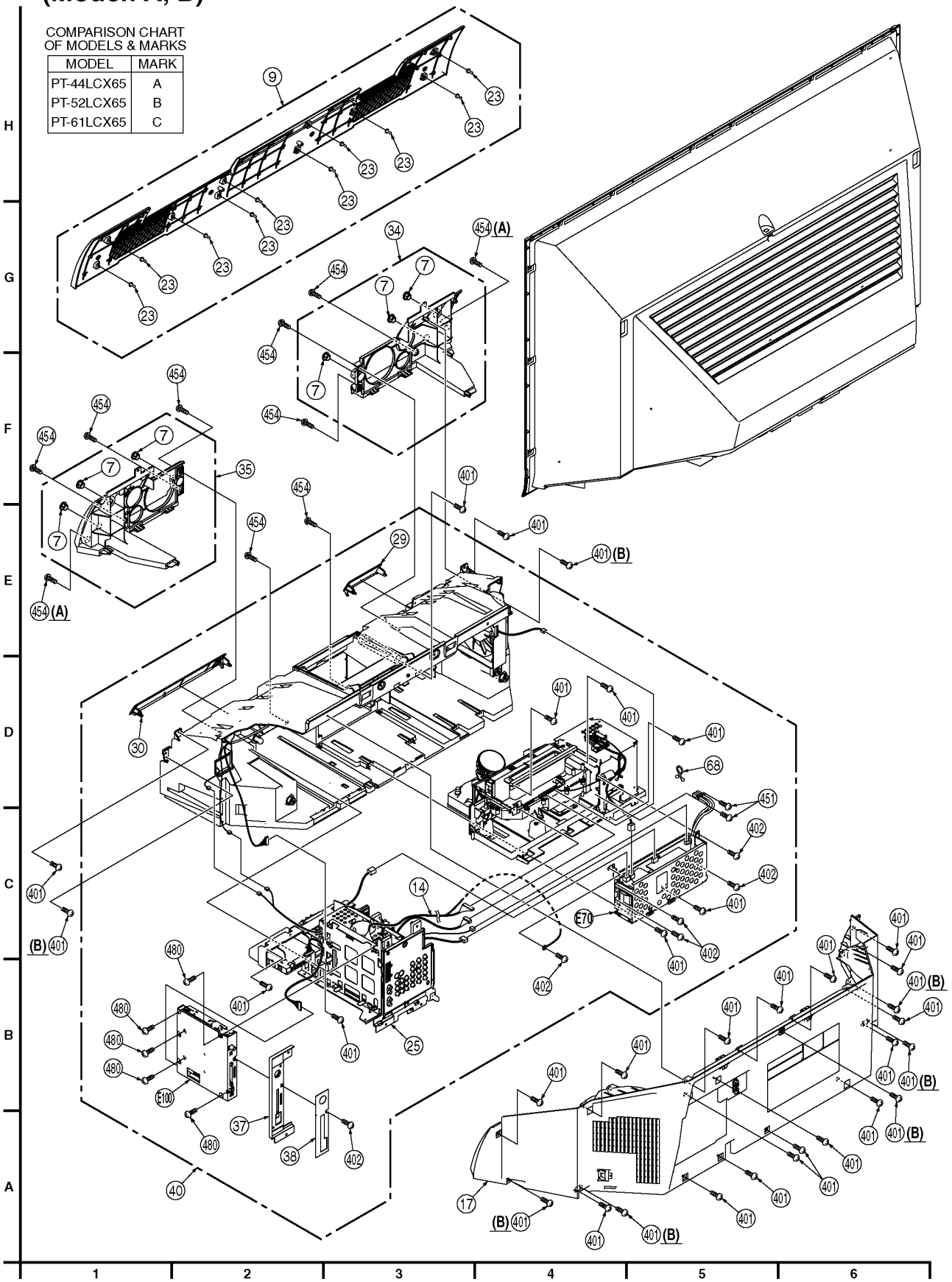
11.1. MAIN PARTS SECTION

❶ 44/52 INCH MAIN PARTS SECTION (Model: A, B)

Note: Parts with no Ref. No. in "EXPLODED VIEW" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.

COMPARISON CHART OF MODELS & MARKS

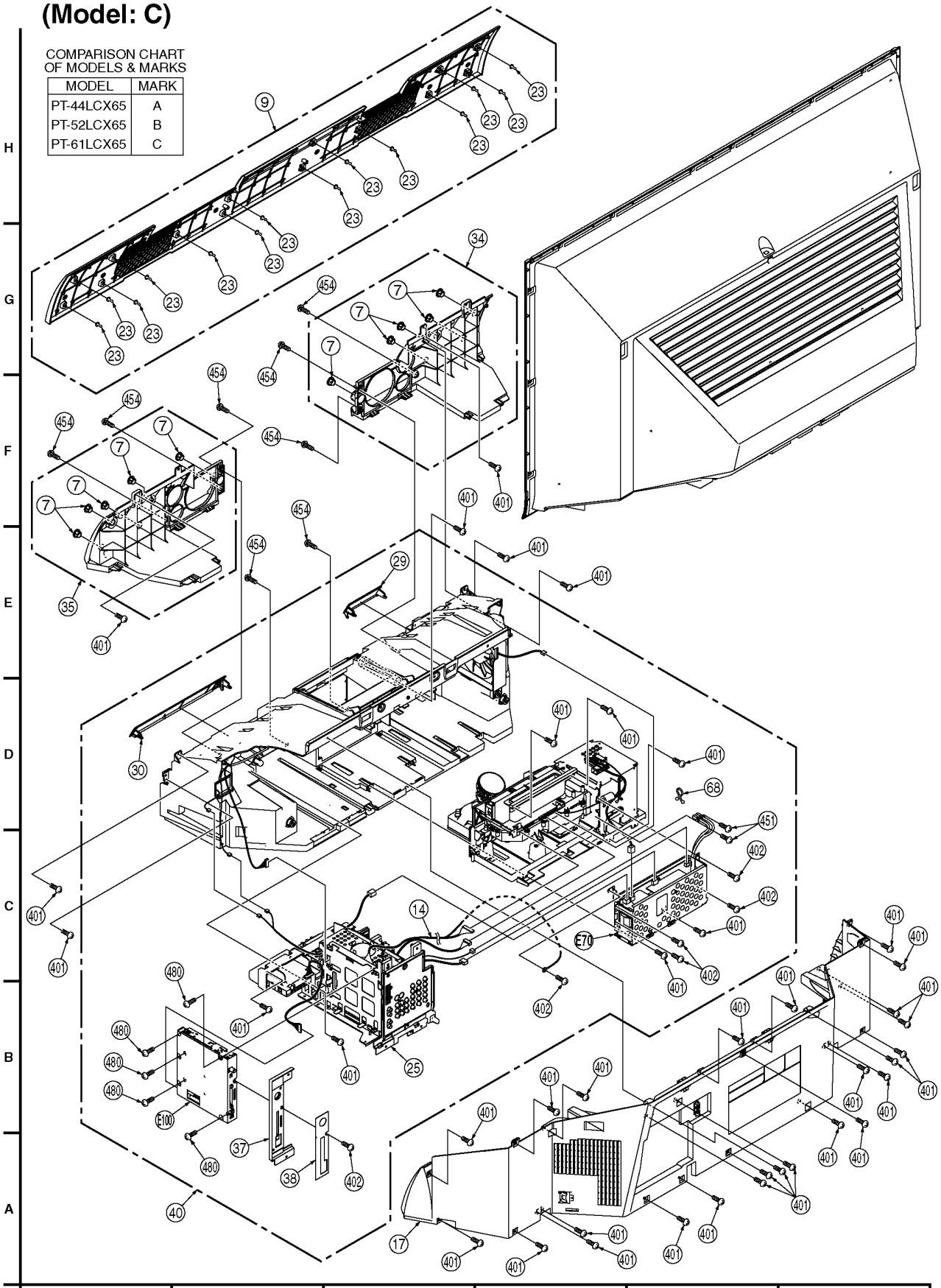
MODEL	MARK
PT-44LCX65	A
PT-52LCX65	B
PT-61LCX65	C



❶ 61 INCH MAIN PARTS SECTION (Model: C)

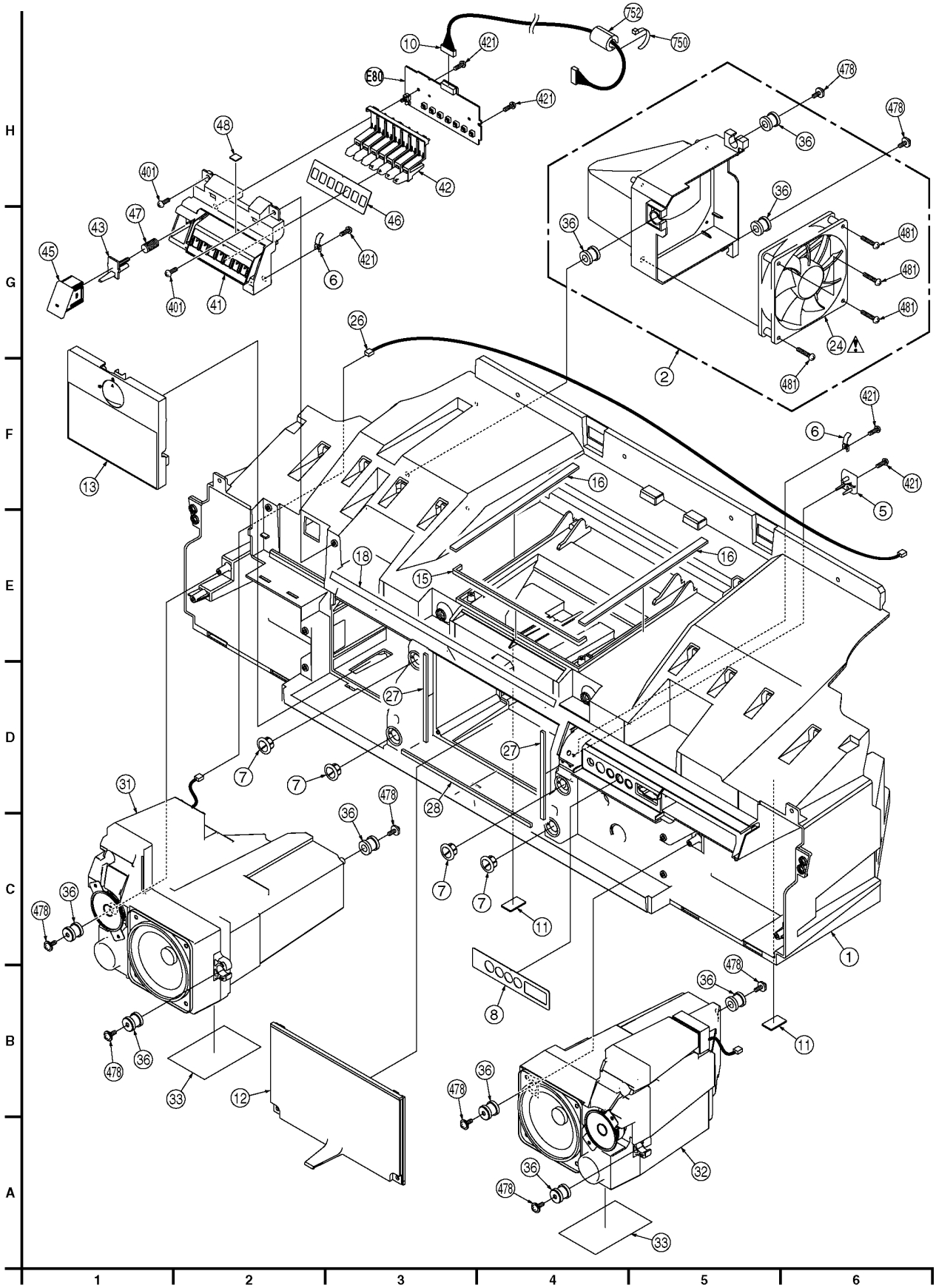
COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PT-44LCX65	A
PT-52LCX65	B
PT-61LCX65	C



11.2. FRONT AND BASE SECTION

❷ FRONT AND BASE SECTION

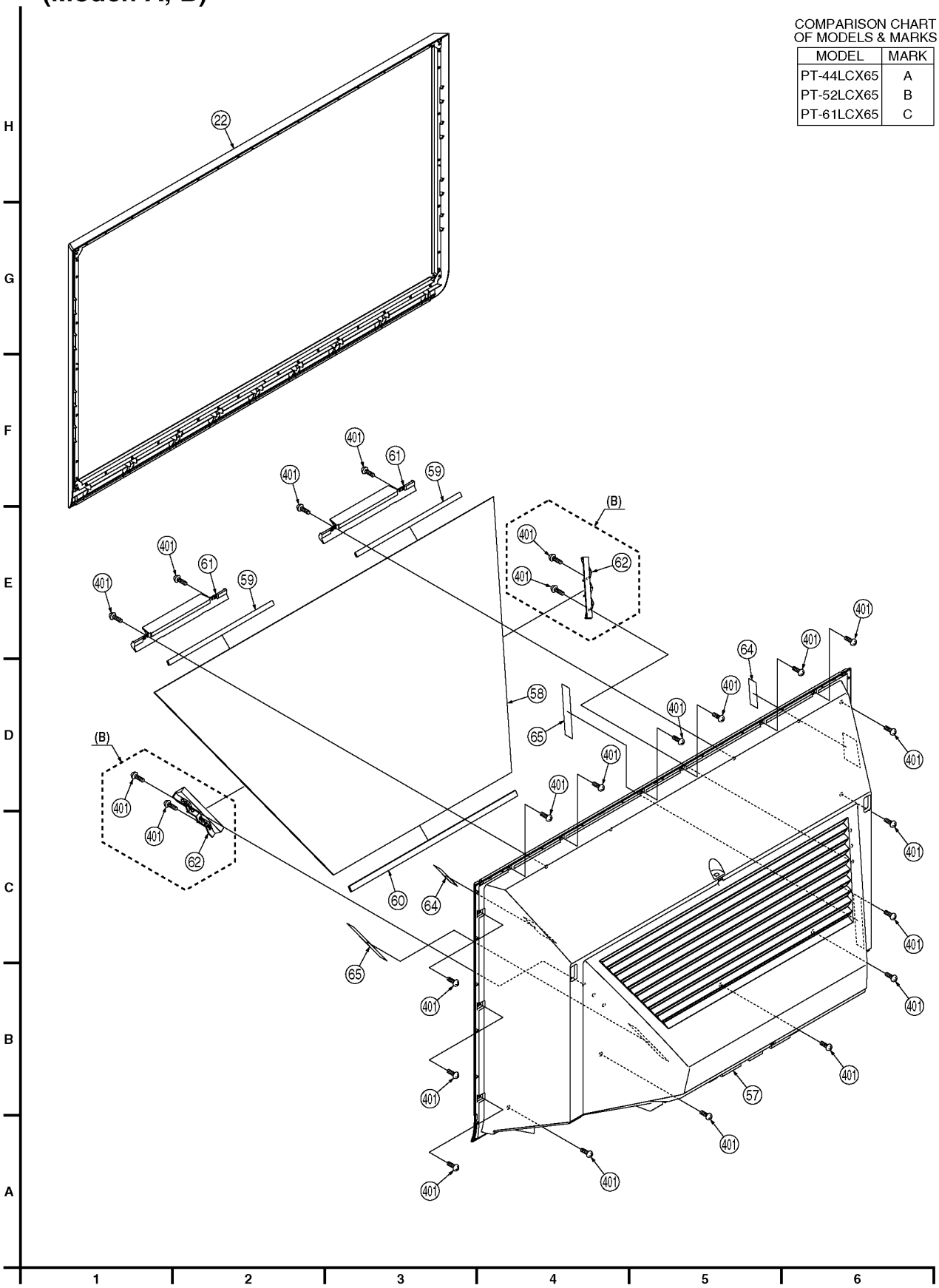


11.3. DISPLAY SECTION

❸ 44/52 INCH DISPLAY SECTION (Model: A, B)

COMPARISON CHART OF MODELS & MARKS

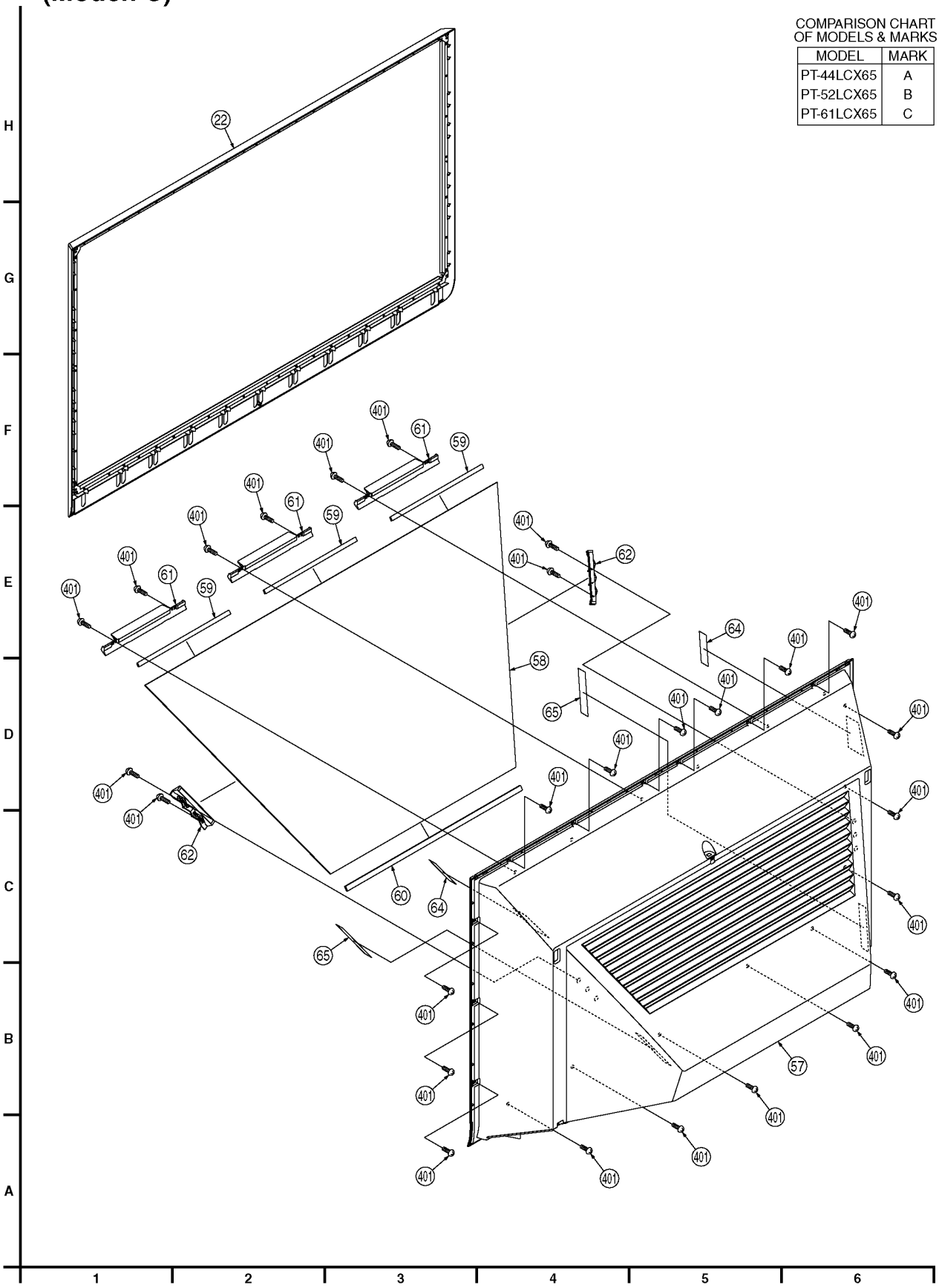
MODEL	MARK
PT-44LCX65	A
PT-52LCX65	B
PT-61LCX65	C



❸ 61 INCH DISPLAY SECTION
(Model: C)

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PT-44LCX65	A
PT-52LCX65	B
PT-61LCX65	C

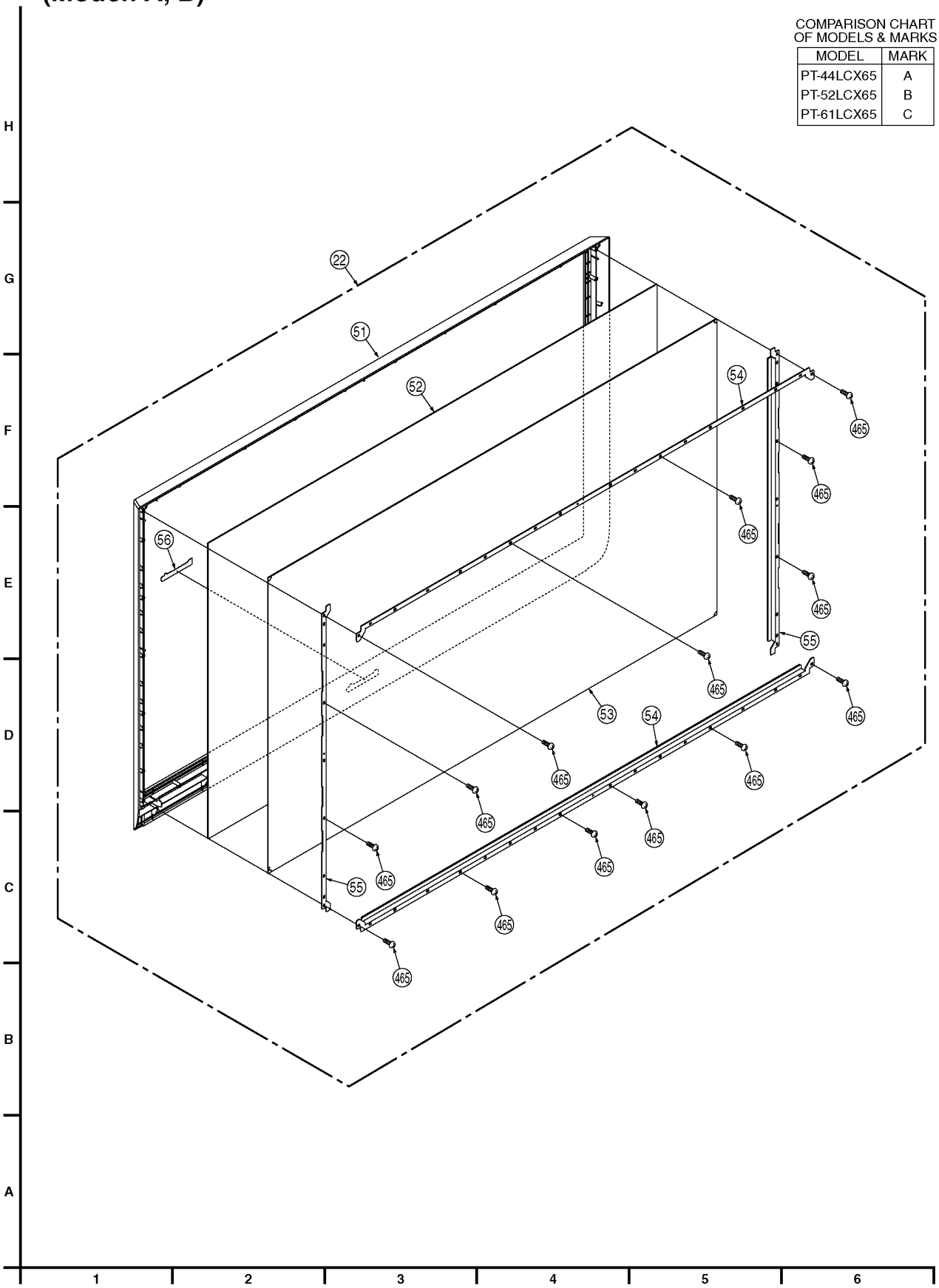


11.4. SCREEN SECTION

❹ 44/52 INCH SCREEN SECTION (Model: A, B)

COMPARISON CHART OF MODELS & MARKS

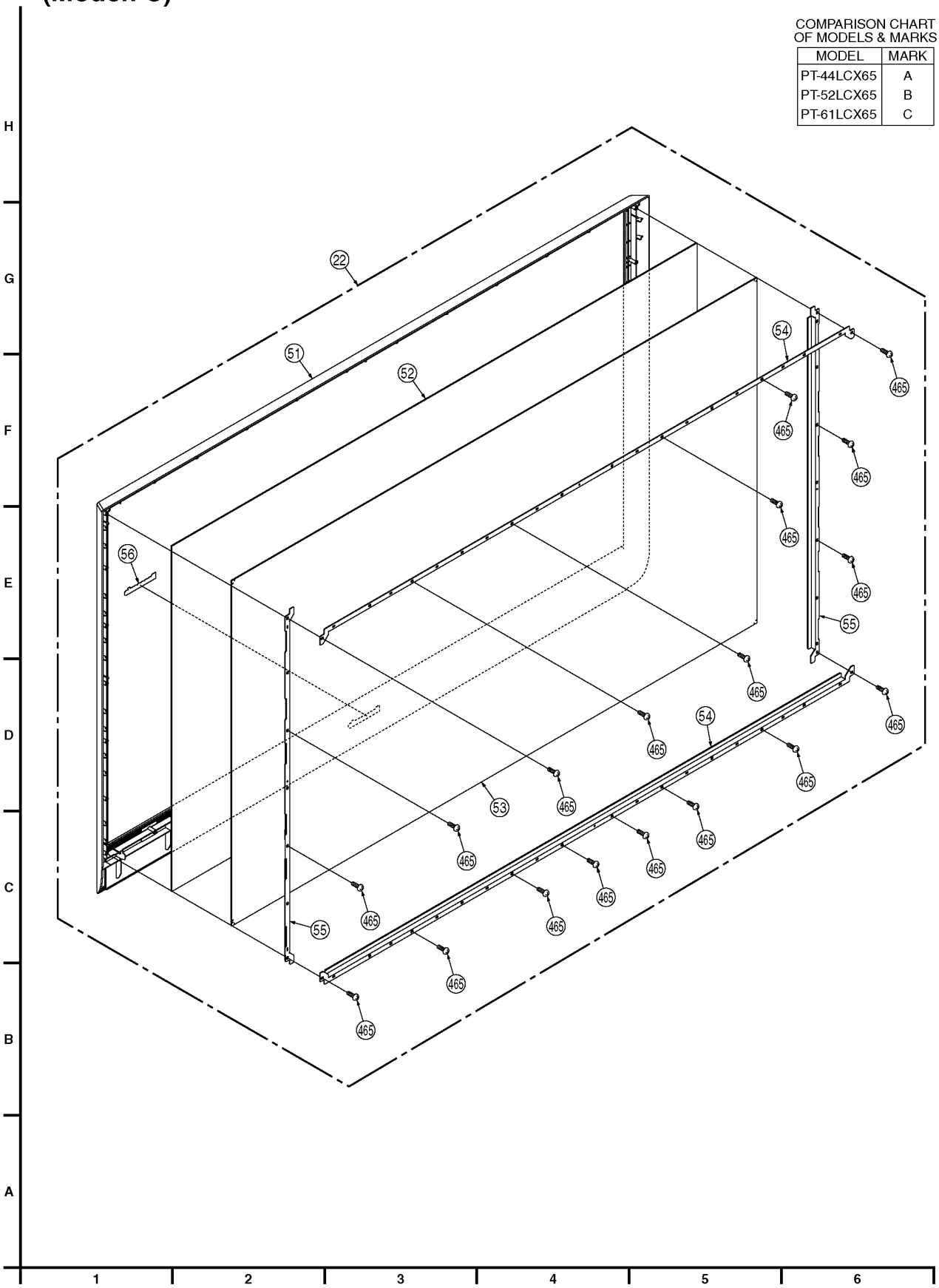
MODEL	MARK
PT-44LCX65	A
PT-52LCX65	B
PT-61LCX65	C



❹ 61 INCH SCREEN SECTION (Model: C)

COMPARISON CHART OF MODELS & MARKS

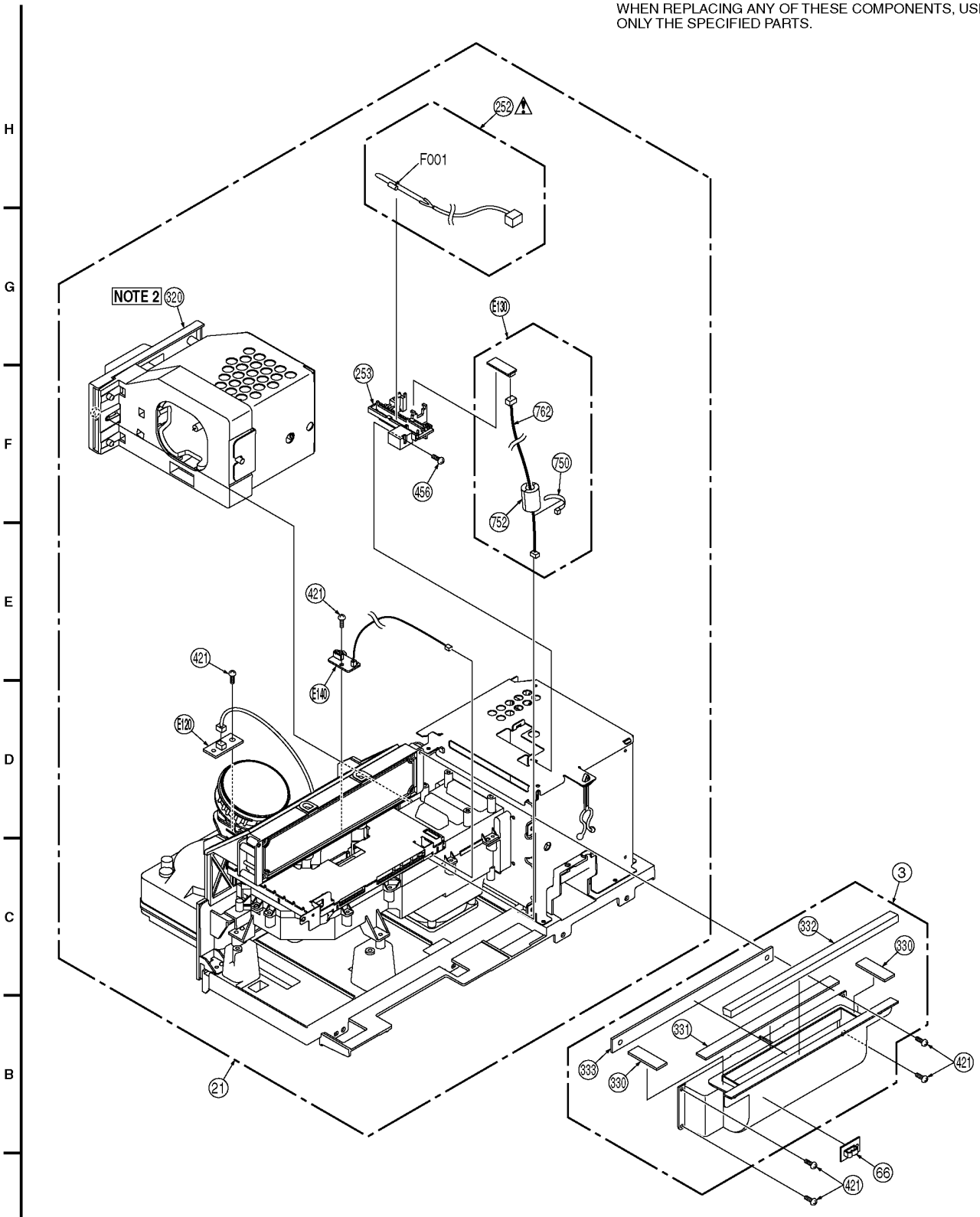
MODEL	MARK
PT-44LCX65	A
PT-52LCX65	B
PT-61LCX65	C



11.5. PROJECTION SECTION

❺ PROJECTION SECTION

IMPORTANT SAFETY NOTICE
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

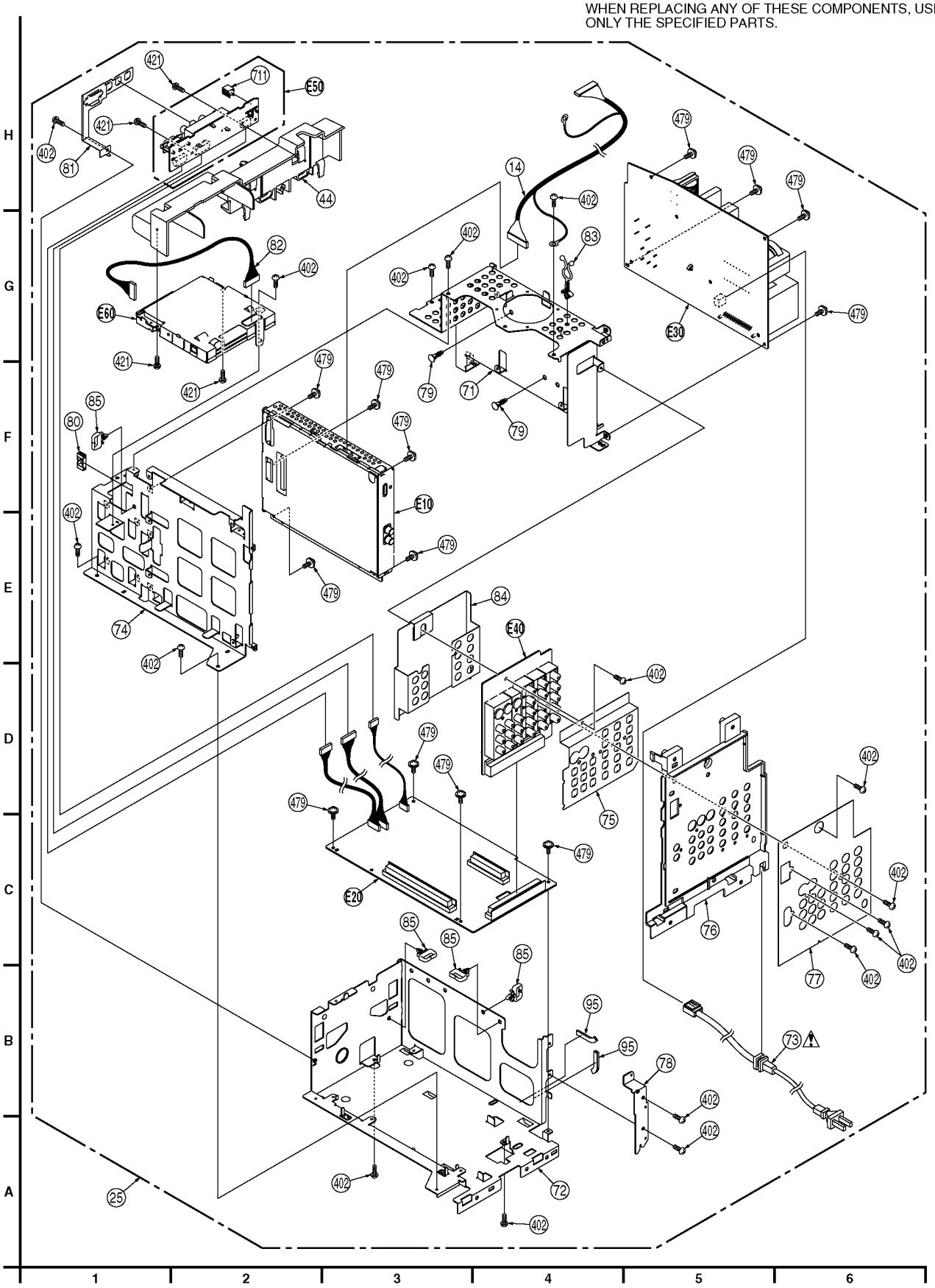


NOTE 2:
The Lamp Unit (TY-LA1000) is not supplied as a replacement part. It is sold separately. To purchase a replacement, call the Panasonic accessory department.

11.6. TV UNIT SECTION

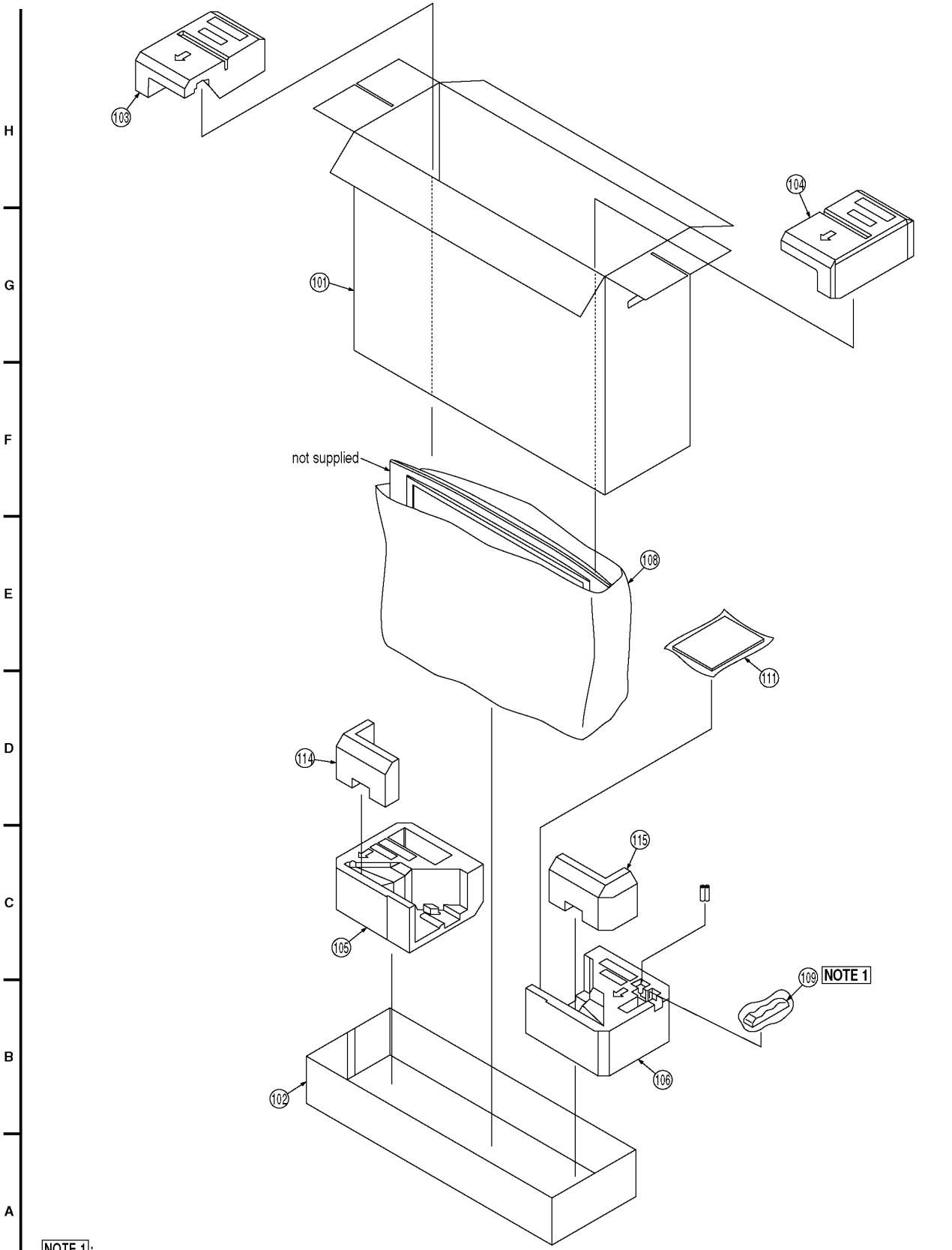
❻ TV UNIT SECTION

IMPORTANT SAFETY NOTICE
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.



11.7. PACKING PARTS AND ACCESSORIES SECTION

❼ PACKING PARTS AND ACCESSORIES SECTION



NOTE 1:
The Infrared Remote Control Unit (Ref. No. 109) replacement part is available as a complete assembly unit only. Do not try to disassemble the Infrared Remote Control Unit.

12 REPLACEMENT PARTS LIST

BEFORE REPLACING PARTS, READ THE FOLLOWING:

12.1. REPLACEMENT NOTES

12.1.1. General Notes

1. Use only original replacement parts:

   To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list.

2. **IMPORTANT SAFETY NOTICE**

   Components identified by the sign ⚠ have special characteristics important for safety. When replacing any of these components, use only the specified parts.

3. SPECIAL NOTE

   All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "ELECTROSTATICALLY SENSITIVE (ES) DEVICES" section of this service manual.

4. Parts with no Ref. No. in "EXPLODED VIEWS" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.

5. Parts different in shape or size may be used. However, only interchangeable parts will be supplied as service replacement parts.

6. Definition of Parts supplier:

   a. Parts with mark "PSEC" in the Remarks column are supplied from PSEC.

   b. Parts with mark "PASC-NPC" in the Remarks column are supplied from PASC-NPC.

   c. Parts without mark in the Remarks column are supplied from PSECI.

7. Item numbers with capital letter E (Example: E10, E20,...) in the Ref. No. column are shown in the exploded views.

8. Parts whose Ref. Nos. are the same are interchangeable as replacement parts. Any of these parts may be ordered and used as a replacement part.

12.1.2. Main Parts Replacement Notes

1. Section No. of parts shown in Exploded Views are indicated in the Remarks column.

2. Abbreviation

   RTL: Retention Time Limited

   This indicates that the retention time is limited for this item. After the discontinuation of this item in production, it will no longer be available.

3. After replacing the Projection Unit (Ref. No. 21) or the Base Body Unit (Ref. No. 40), be sure to perform "ADJUSTMENT of the Projection Unit." Refer to "WHEN REINSTALLING THE PROJECTION UNIT OR BASE BODY UNIT INTO THE UNIT AT THE USER´S LOCATION"; in ADJUSTMENT PROCEDURES 1.

4. The Infrared Remote Control Unit (Ref. No. 109) replacement part is available as a complete assembly unit only. Do not try to disassemble the Infrared Remote Control Unit.

12.1.3. Electrical Replacement Notes

1. Unless otherwise specified;

   All resistors are in Ω, K = 1,000 Ω, M = 1,000 kΩ.

2. Abbreviation

RTL:	Retention Time Limited This indicates that the retention time is limited for this item. After the discontinuation of this item in production, it will no longer be available.
NR:	Non Repairable Board Ass´y
MGF CHIP:	Metal Glaze Film Chip
C CHIP:	Ceramic Chip
COMPLX CMP:	Complex Component
W FLMPRF:	Wirewound Flameproof
C.B.A.:	Circuit Board Assembly
P.C.B.:	Printed Circuit Board
E.S.D.:	Electrostatically Sensitive Devices

3. When replacing 0 Ω resistor, a wire can be substituted for it.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PT-44LCX65	A
PT-52LCX65	B
PT-61LCX65	C

12.2. MECHANICAL REPLACEMENT PARTS LIST

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PT-44LCX65	A
PT-52LCX65	B
PT-61LCX65	C

Definition of Parts supplier:

1. **Parts with mark "PSEC" in the Remarks column are supplied from PSEC.**
2. **Parts with mark "PASC-NPC" in the Remarks column are supplied from PASC-NPC.**
3. **Parts without mark in the Remarks column are supplied from PSECI.**

MECHANICAL REPLACEMENT PARTS

Ref. No.	Part No.	Part Name & Description	Remarks
1	LSKU0029	BASE BODY	2
2	LSXY0811	EXAUST FAN UNIT	2
3	LSXA0683	TOP DUCT 3 UNIT	5 PASC-NPC
5	LSGL0427	INFRARED PIECE	2
6	LSMC0124	PANEL SPRING	2
7	LSKC0008	LATCH	1,2
8	LSGH0055	FRONT JACK SHEET	2
9	LSYF0557	FRONT COVER UNIT (A)	1 PASC-NPC
9	LSYF0553	FRONT COVER UNIT (B)	1 PASC-NPC
9	LSYF0558	FRONT COVER UNIT (C)	1 PASC-NPC
10	LSJA0543	CONNECTOR CABLE W/PLUG	2
11	LSKA0030	RUBBER FOOT	2
12	LSYF0563	OPTICAL COVER UNIT	2
13	LSYK1564	LAMP COVER UNIT	2
14	K1PB20A00021	20-PIN CABLE	1,6
15	LSMG0161	SPACER	2
16	LSMG0162	SPACER	2
17	LSGV0100	REAR COVER (A)	1 PASC-NPC
17	LSYF0569	REAR COVER UNIT (B)	1 PASC-NPC
17	LSYF0571	REAR COVER UNIT (C)	1 PASC-NPC
18	LSMF0408	SHEET	2
21	LSXA0625-HB	PROJECTION UNIT (A)	5 RTL PSEC
21	LSXA0626-HB	PROJECTION UNIT (B)	5 RTL PSEC
21	LSXA0699-HB	PROJECTION UNIT (C)	5 RTL PSEC
22	LSYK1569	SCREEN UNIT (A)	3,4 PASC-NPC
22	LSYK1565	SCREEN UNIT (B)	3,4 PASC-NPC
22	LSYK1570	SCREEN UNIT (C)	3,4 PASC-NPC
23	TMM14414	STRIKE	1 PASC-NPC
24	L6FANEHH0003	FAN3	2 ⚠
25	LSXY0813	TV UNIT	1,6 RTL
26	LSJA0545	CONNECTOR CABLE W/PLUG	2
27	LSMG0154	SPACER	2
28	LSMG0155	SPACER	2
29	LSKF0620	BUTTON DOOR	1 PASC-NPC
30	LSYY0318	FRONT JACK DOOR UNIT	1 PASC-NPC
31	EAB10117AL	SPEAKER ASSEMBLY L	2
32	EAB10117AR	SPEAKER ASSEMBLY R	2
33	LSMF0407	RUBBER SPACER	2
34	LSYF0559	SIDE COVER L UNIT (A)	1 PASC-NPC
34	LSYF0554	SIDE COVER L UNIT (B)	1 PASC-NPC
34	LSYF0560	SIDE COVER L UNIT (C)	1 PASC-NPC
35	LSYF0561	SIDE COVER R UNIT (A)	1 PASC-NPC
35	LSYF0555	SIDE COVER R UNIT (B)	1 PASC-NPC
35	LSYF0562	SIDE COVER R UNIT (C)	1 PASC-NPC
36	TMMJ058	SPEAKER RUBBER	2
37	LSJH0082	DTV JACK HOLDER	1 PASC-NPC
38	LSGH0058	DTV JACK SHEET	1 PASC-NPC
40	LSVE0008	BASE BODY UNIT (A)	1 RTL PASC-NPC
40	LSVE0009	BASE BODY UNIT (B)	1 RTL PASC-NPC
40	LSVE0010	BASE BODY UNIT (C)	1 RTL PASC-NPC
41	LSJF0013	FRONT BUTTON HOLDER	2
42	LSGU0664	OPERATION BUTTON	2
43	LSGL0429	POWER LED PIECE	2
44	LSJH0080	FRONT JACK HOLDER	6
45	LSGU0674	POWER BUTTON	2
46	LSGH0056	OPERATION SHEET	2
47	LSMB0314	POWER BUTTON SPRING	2
48	LSMF0419	SPACER	2
51	LSGY0259	ESCUTCHEON (A)	4 PASC-NPC
51	LSGY0260	ESCUTCHEON (B)	4 PASC-NPC
51	LSGY0261	ESCUTCHEON (C)	4 PASC-NPC
52	LSGP0470	LENTICULAR SCREEN (A)	4 PASC-NPC
52	LSGP0471	LENTICULAR SCREEN (B)	4 PASC-NPC
52	LSGP0472	LENTICULAR SCREEN (C)	4 PASC-NPC
53	LSGP0467	FRESNEL LENS (A)	4 PASC-NPC
53	LSGP0468	FRESNEL LENS (B)	4 PASC-NPC
53	LSGP0469	FRESNEL LENS (C)	4 PASC-NPC
54	LSXA0662	SCREEN ANGLE H UNIT (A)	4 PASC-NPC
54	LSXA0663	SCREEN ANGLE H UNIT (B)	4 PASC-NPC
54	LSXA0664	SCREEN ANGLE H UNIT (C)	4 PASC-NPC
55	LSXA0659	SCREEN ANGLE V UNIT (A)	4 PASC-NPC
55	LSXA0660	SCREEN ANGLE V UNIT (B)	4 PASC-NPC
55	LSXA0661	SCREEN ANGLE V UNIT (C)	4 PASC-NPC
56	TBM0A3005	PANASONIC BADGE	4 PASC-NPC
57	LSGV0097	BACK COVER (A)	3 PASC-NPC
57	LSGV0098	BACK COVER (B)	3 PASC-NPC
57	LSGV0099	BACK COVER (C)	3 PASC-NPC

Ref. No.	Part No.	Part Name & Description	Remarks
58	LSDL0288	MIRROR (A)	3 PASC-NPC
58	LSDL0289	MIRROR (B)	3 PASC-NPC
58	LSDL0290	MIRROR (C)	3 PASC-NPC
59	LSMF0393	SPACER	3 PASC-NPC
60	LSMF0390	SPACER (A)	3 PASC-NPC
60	LSMF0445	SPACER (B)	3 PASC-NPC
60	LSMF0446	SPACER (C)	3 PASC-NPC
61	LSGQ0145	MIRROR HOLDER H	3 PASC-NPC
62	LSYF0556	MIRROR HOLDER V UNIT (B,C)	3 PASC-NPC
64	LSMF0417	SPACER	3 PASC-NPC
65	LSMF0418	SPACER	3 PASC-NPC
66	LSGP0372	CLAMPER	5 PASC-NPC
68	TMM6463-1	CLAMPER	1 PASC-NPC
71	LSMA0807	P.C.B. POWER ANGLE	6
72	LSMA0808	P.C.B. BASE ANGLE	6
73	K2CB2CZ00004	AC CORD W/PLUG	6 ⚠
74	LSMA0809	P.C.B. MAIN ANGLE	6
75	LSSC0773	REAR JACK EARTH PLATE,STEEL	6
76	LSJH0081	REAR JACK HOLDER	6
77	LSGH0057	REAR JACK SHEET	6
78	LSSC0779	EARTH PLATE A	6
79	KGLS-12RTV0	RIVET	6
80	TMME075	EDGE SADDLE	6
81	LSSC0774	FRONT JACK EARTH PLATE,STEEL	6
82	LSJA0544	CONNECTOR CABLE W/PLUG	6
83	TMM5439-1	CLAMPER	6
84	LSKW0237	REAR JACK BARRIER	6
85	TMM6425-1	CLAMPER	6
95	VMFS0116	SHEET	6
101	LSPG1965	CARTON BOX (A)	7 PASC-NPC
101	LSPG1963	CARTON BOX (B)	7 PASC-NPC
101	LSPG1967	CARTON BOX (C)	7 PASC-NPC
102	LSPG1966	CARTON BOX BOTTOM (A)	7 PASC-NPC
102	LSPG1964	CARTON BOX BOTTOM (B)	7 PASC-NPC
102	LSPG1968	CARTON BOX BOTTOM (C)	7 PASC-NPC
103	LSPN0577	CUSHION TOP-LEFT,STYROFOAM (A)	7 PASC-NPC
103	LSPN0573	CUSHION TOP-LEFT,STYROFOAM (B)	7 PASC-NPC
103	LSPN0581	CUSHION TOP-LEFT,STYROFOAM (C)	7 PASC-NPC
104	LSPN0578	CUSHION TOP-RIGHT,STYROFOAM (A)	7 PASC-NPC
104	LSPN0574	CUSHION TOP-RIGHT,STYROFOAM (B)	7 PASC-NPC
104	LSPN0582	CUSHION TOP-RIGHT,STYROFOAM (C)	7 PASC-NPC
105	LSPN0579	CUSHION BOTTOM-LEFT,STYROFOAM (A)	7 PASC-NPC
105	LSPN0575	CUSHION BOTTOM-LEFT,STYROFOAM (B)	7 PASC-NPC
105	LSPN0583	CUSHION BOTTOM-LEFT,STYROFOAM (C)	7 PASC-NPC
106	LSPN0580	CUSHION BOTTOM-RIGHT,STYROFOAM (A)	7 PASC-NPC
106	LSPN0576	CUSHION BOTTOM-RIGHT,STYROFOAM (B)	7 PASC-NPC
106	LSPN0584	CUSHION BOTTOM-RIGHT,STYROFOAM (C)	7 PASC-NPC

Ref. No.	Part No.	Part Name & Description	Remarks
108	LSPF0161	BAG,POLYETHYLENE (A)	7 PASC-NPC
108	LSPF0111	BAG,POLYETHYLENE (B,C)	7 PASC-NPC
109	EUR7627Z70	INFRARED REMOTE CONTROL UNIT	7 PASC-NPC
111	LSQF0925	FAN BAG	7 PASC-NPC
114	LSPN0588	CUSHION FRONT-LEFT,STYROFOAM	7 PASC-NPC
115	LSPN0589	CUSHION FRONT-RIGHT,STYROFOAM	7 PASC-NPC
252	LSJA0464	THERMAL FUSE UNIT	5 ⚠ PSEC
253	LSMP0420	SENSOR HOLDER	5 PSEC
330	LSMF0269	TOP DUCT 3 SPONGE 1	5 PASC-NPC
331	LSMF0270	TOP DUCT 3 SPONGE 2	5 PASC-NPC
332	LSMF0271	TOP DUCT 3 SPONGE 3	5 PASC-NPC
333	LSMF0272	TOP DUCT 3 SPONGE 4	5 PASC-NPC
401	XTV4+16AFJ	TAPPING SCREW,STEEL	1,2,3
402	XTV3+8JFN	TAPPING SCREW,STEEL	1,6
421	XTV3+8GFJ	TAPPING SCREW,STEEL	2,5,6
451	XTW3+8QFJ	TAPPING SCREW,STEEL	1 PASC-NPC
454	XTV4+16AFJK	TAPPING SCREW,STEEL	1 PASC-NPC
456	XTV3+6FFJ	TAPPING SCREW,STEEL	5 PSEC
465	XTV4+12AFJ	TAPPING SCREW,STEEL	4 PASC-NPC
478	LSHD0099-FJ	SCREW,STEEL	2
479	XYE3+FJ8FN	SCREW W/WASHER,STEEL	6
480	XTW3+8TFJ	TAPPING SCREW,STEEL	1 PASC-NPC
481	XTV3+35GFJ	TAPPING SCREW,STEEL	2
711	PNA4618M14VT	INFRARED RECEIVER UNIT	6
750	VZFS0006	CLAMPER	2,5
752	LSLQ0307	FERRITE CORE	2,5
762	LSJA0533	CONNECTOR CABLE W/PLUG	5 PSEC
E10	LSEB3150A	MAIN C.B.A.	6 RTL
E20	LSEP3152A	BASE C.B.A.	6 RTL
E30	LSEP3153A	POWER C.B.A.	6 RTL
E40	LSEP3154A	REAR JACK C.B.A.	6 RTL
E50	LSEP3155A	FRONT JACK C.B.A.	6 RTL
E60	LSEB3161A	CARD C.B.A.	6 RTL
E70	LSEB3163A	BALLAST C.B.A. NR	1
E80	LSEP3156A	OPERATION C.B.A.	2 RTL
E100	LSXY0888	DIGITAL TUNER C.B.A.	1 RTL PASC-NPC
E120	LSEP3166A	THERMISTOR 1 C.B.A.	5 RTL PSEC
E130	LSEB3137A	THERMISTOR 2 C.B.A.	5 RTL PSEC
E140	LSEP3160A	COVER SWITCH C.B.A.	5 RTL PSEC

12.3. OPTIONAL ACCESSORY REPLACEMENT PARTS LIST

12.3.1. LAMP UNIT

Ref. No.2	Part No.	Part Name & Description	Remarks
320	TY-LA1000	LAMP UNIT	5 NOTE

NOTE:

The Lamp Unit (TY-LA1000) is not supplied as a replacement part. It is sold separately. To purchase a replacement, call the Panasonic accessory department.

12.4. ELECTRICAL REPLACEMENT PARTS LIST

Definition of Parts supplier:

1. **Parts with mark "PSEC" in the Remarks column are supplied from PSEC.**
2. **Parts with mark "PASC-NPC" in the Remarks column are supplied from PASC-NPC.**
3. **Parts without mark in the Remarks column are supplied from PSECI.**

PRINTED CIRCUIT BOARD ASSEMBLY

Ref. No.	Part No.	Part Name & Description	Remarks
E10	LSEB3150A	MAIN C.B.A.	RTL E.S.D.
E20	LSEP3152A	BASE C.B.A.	RTL E.S.D.
E30	LSEP3153A	POWER C.B.A.	RTL E.S.D.
E40	LSEP3154A	REAR JACK C.B.A.	RTL
E50	LSEP3155A	FRONT JACK C.B.A.	RTL
E60	LSEB3161A	CARD C.B.A.	RTL
E70	LSEB3163A	BALLAST C.B.A. NR	
E80	LSEP3156A	OPERATION C.B.A.	RTL
E100	LSXY0888	DIGITAL TUNER C.B.A.	E.S.D. RTL PASC-NPC
E120	LSEP3166A	THERMISTOR 1 C.B.A.	RTL PSEC
E130	LSEB3137A	THERMISTOR 2 C.B.A.	RTL PSEC
E140	LSEP3160A	COVER SWITCH C.B.A.	RTL PSEC

12.4.1. FRONT JACK C.B.A.

TRANSISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
Q3901	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q3901	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q3902	2SD1819A0L	TRANSISTOR SI NPN CHIP	
or Q3902	B1ABCF000020	TRANSISTOR SI NPN CHIP	

DIODES

Ref. No.	Part No.	Part Name & Description	Remarks
D3901	B0BD6R200004	DIODE ZENER CHIP 6.2V	
D3902	B3AAA0000538	LIGHT EMITTING DIODE RED	
D3903	B3AAA0000538	LIGHT EMITTING DIODE RED	

RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R3901	ERA3YHD750V	MGF CHIP 1/16W 75	
R3902	ERA3YHD750V	MGF CHIP 1/16W 75	
R3903	ERA3YHD750V	MGF CHIP 1/16W 75	
R3904	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R3905	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R3906	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R3907	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R3908	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R3909	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R3910	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R3911	ERJ3GEYJ750V	MGF CHIP 1/16W 75	
R3912	ERJ3GEYJ750V	MGF CHIP 1/16W 75	
R3913	ERJ3GEYJ750V	MGF CHIP 1/16W 75	
R3914	ERJ3GEYJ101V	MGF CHIP 1/16W 100	

CAPACITORS

Ref. No.	Part No.	Part Name & Description	Remarks
C3901	F2A0J4700014	ELECTROLYTIC 6.3V 47UF	

COILS

Ref. No.	Part No.	Part Name & Description	Remarks
L3901	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L3902	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L3903	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L3904	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L3905	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L3906	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L3907	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L3908	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L3909	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L4801	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L4802	ERJ3GEY0R00V	MGF CHIP 1/16W 0	

PIN HEADERS

Ref. No.	Part No.	Part Name & Description	Remarks
P3901	K1KA10BA0062	CONNECTOR 10P	
P3902	K1KA12BA0062	CONNECTOR 12P	
P3903	K1KA05BA0061	CONNECTOR 5P	

JACKS

Ref. No.	Part No.	Part Name & Description	Remarks
JK3901	K1FB115A0015	D-SUB MINI JACK SOCKET	
JK3902	K1U412A00008	AUDIO/VIDEO/S-VIDEO JACK SOCKET	

MISCELLANEOUS

Ref. No.	Part No.	Part Name & Description	Remarks
711	PNA4618M14VT	INFRARED RECEIVER UNIT	

12.4.2. OPERATION C.B.A.

TRANSISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
Q6701	2SB1218A0L	TRANSISTOR SI PNP CHIP	
or Q6701	B1ADCF000063	TRANSISTOR SI PNP CHIP	
or Q6701	B1ADCF000075	TRANSISTOR SI PNP CHIP	
Q6702	2SB1218A0L	TRANSISTOR SI PNP CHIP	
or Q6702	B1ADCF000063	TRANSISTOR SI PNP CHIP	
or Q6702	B1ADCF000075	TRANSISTOR SI PNP CHIP	

DIODES

Ref. No.	Part No.	Part Name & Description	Remarks
D6701	B3AGA0000072	LIGHT EMITTING DIODE GREEN	

RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R6702	ERJ3GEYJ122V	MGF CHIP 1/16W 1.2K	
R6703	ERJ3GEYJ152V	MGF CHIP 1/16W 1.5K	
R6704	ERJ3GEYJ272V	MGF CHIP 1/16W 2.7K	
R6705	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R6706	ERJ3GEYJ183V	MGF CHIP 1/16W 18K	
R6707	ERJ3GEYJ122V	MGF CHIP 1/16W 1.2K	
R6708	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6709	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6710	ERJ3GEYJ181V	MGF CHIP 1/16W 180	
R6711	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R6712	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R6713	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	

PIN HEADERS

Ref. No.	Part No.	Part Name & Description	Remarks
P6701	K1KA07BA0061	CONNECTOR 7P	

SWITCHES

Ref. No.	Part No.	Part Name & Description	Remarks
SW6701	EVQ11G05R	SWITCH PUSH	
SW6702	EVQ11G05R	SWITCH PUSH	
SW6703	EVQ11G05R	SWITCH PUSH	
SW6704	EVQ11G05R	SWITCH PUSH	
SW6705	EVQ11G05R	SWITCH PUSH	
SW6706	EVQ11G05R	SWITCH PUSH	
SW6707	EVQ11G05R	SWITCH PUSH	
SW6708	EVQ11G05R	SWITCH PUSH	

12.4.3. THERMISTOR 1 C.B.A.

RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R2811	D4CA35030002	THERMISTER	⚠ PSEC

PIN HEADERS

Ref. No.	Part No.	Part Name & Description	Remarks
P2811	K1KA02AA0182	CONNECTOR 2P	PSEC

12.4.4. THERMISTOR 2 C.B.A.

RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R2821	D4CE31330001	THERMISTOR	⚠ PSEC

PIN HEADERS

Ref. No.	Part No.	Part Name & Description	Remarks
P2821	K1KA02AA0300	CONNECTOR 2P	PSEC

MISCELLANEOUS

Ref. No.	Part No.	Part Name & Description	Remarks
750	VZFS0006	CLAMPER	PSEC
752	LSLQ0307	FERRITE CORE	PSEC
762	LSJA0533	CONNECTOR CABLE W/PLUG	PSEC

12.4.5. COVER SWITCH C.B.A.

PIN HEADERS

Ref. No.	Part No.	Part Name & Description	Remarks
P2912	LSJA0551	CONNECTOR CABLE W/PLUG	PSEC

SWITCHES

Ref. No.	Part No.	Part Name & Description	Remarks
SW2911	K0L1BA000114	SWITCH	PSEC